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ABSTRACT

This report from the governor-appointed Council on Library and Network Development (COLAND), which makes recommendations for updating the Wisconsin Department of Public Instruction's library automation policy, comprises a summary of the council's recommendations and 14 issue papers. These papers, which make up the major part of the report, are concerned with: (1) the role of the Division for Library Services (DLS) in bibliographic database development in the state; (2) the relationship between the Wisconsin Catalog (WISCAT) database and OCLC (the Online Computer Library Center) database; (3) systems for adding MARC records and library holding information to WISCAT; (4) quality control in WISCAT; (5) forms in which WISCAT should be produced and how it should provide access to information; (6) the format of WISCAT output; (7) agencies responsible for funding WISCAT; (8) how interlibrary loan should be automated; (9) the role of DLS in automating small libraries; (10) the role of DLS in funding and providing access to online database services; (11) the role of the public library system in planning and implementing automation at the area and local levels; (12) whether DLS should support remote access mechanisms for use with automated library systems; (13) whether DLS should support linking mechanisms between automated library systems; and (14) how DLS should cooperate with academic and special libraries in the area of library automation. Each issue paper includes the council's recommendations for that area, and cost analysis scenarios for issues 5 and 7 are appended. (CGD)

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Report of the
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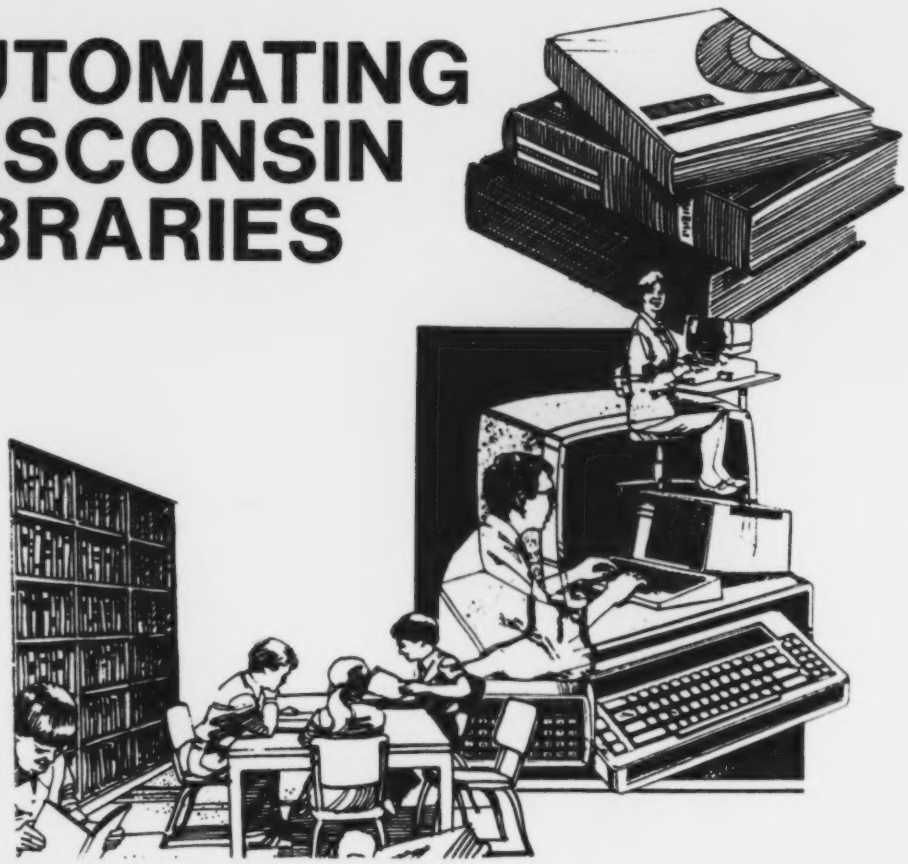
to the State Superintendent
of Public Instruction

AUTOMATING WISCONSIN LIBRARIES



WISCONSIN DEPARTMENT OF PUBLIC INSTRUCTION
HERBERT J. GROVER, STATE SUPERINTENDENT

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Report of the

Council on Library and Network Development

to the

State Superintendent of Public Instruction

on

Automating Wisconsin Libraries

September 1987

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Division for Library Services
Wisconsin Department of Public Instruction
125 South Webster Street
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State of Wisconsin COUNCIL ON LIBRARY AND NETWORK DEVELOPMENT

P.O. Box 513
Elkhart Lake, WI 53020

September 30, 1987

Herbert J. Grover
State Superintendent of Public Instruction
P.O. Box 7841
Madison, WI 53707

Dear Superintendent Grover:

I am pleased to transmit to you the Council on Library and Network Development's recommendations on library automation.

The council is pleased that you selected COLAND to make recommendations to update the Department of Public Instruction's 1982 Library Automation Policy. In order to facilitate our work, I appointed a COLAND Automation Committee chaired by David Barnard.

The committee held four meetings in 1986 and three meetings in 1987 to review the draft papers prepared for the committee by a Division for Library Services committee. Drafts of the issue papers were sent to 130 librarians and representatives of the various types of libraries and library organizations for comment. All of the suggestions and comments were carefully considered by the COLAND Committee as they prepared their draft report for public hearing.

The committee provided an opportunity for the library community to comment on the preliminary drafts by scheduling public hearings March 5, 1987 at the McMillan Memorial Library, Wisconsin Rapids, and March 12, 1987 at the Reference and Loan Library in Madison. Copies of the preliminary drafts were mailed to all public, school, academic, and special libraries in the State of Wisconsin six weeks prior to the hearing. The council also accepted written comments.

On March 26 and April 23, 1987, the committee reviewed the testimony and written comments and prepared their final draft for action by the full council at its May 8, 1987 meeting.

At the May 8 meeting, the council approved the committee's recommendations and directed me to transmit them to you.

On behalf of the council, we thank you for the opportunity to provide these recommendations and hope that our work will assist you in updating and revising the department's library automation policy.

Sincerely,

Ruth C. Schmidt

Ruth Schmidt
Chairperson

Introduction

This report was prepared by the Council on Library and Network Development (COLAND) in response to a request from the state superintendent of public instruction for recommendations to update the Department of Public Instruction's library automation policy.

COLAND was appointed by the governor and has the statutory responsibility to provide advice on library services to the state superintendent and the Division for Library Services. Section 43.07(2), Wis. Stats., specifically states the council shall "advise the state superintendent in regard to the general policies and activities of the state's program for library development, interlibrary cooperation and network development."

This report consists of a summary of the committee's recommendations on library automation, followed by 14 issue papers. The major recommendation is for the division to continue to develop and maintain the statewide database and distribute microfiche copies of that database for at least the next few years. The database is a union listing of the machine-readable records and holdings of nearly 500 libraries in Wisconsin. The fifth edition of that database, released in 1987, contains 3 million titles and 12.5 million holdings. COLAND received much testimony indicating that this database is a valuable resource-sharing tool and an important source of Machine Readable Cataloging (MARC) records for local automation projects in all types and sizes of libraries.

This report recommends that the division attempt to produce this database on Compact Disc-Read Only Memory (CD-ROM) and eventually phase out production of the microfiche format if the CD-ROM version of the catalog is feasible, cost effective, and useful to libraries.

The committee recognizes the advantages of online access to the Wisconsin Catalog database (also known as WISCAT), but providing this service to all the state's libraries will not be financially practical in the near future. The council recommends that the division seek funding to maintain the WISCAT database, while continuing to explore the feasibility of online access.

The committee also studied the relationship between the WISCAT database and the Online Computer Library Center (OCLC) database. OCLC is an international bibliographic utility located in Dublin, Ohio. It contains 13.5 million records and 233 million holdings from approximately 6,700 libraries, including 175 Wisconsin libraries. The council determined that some duplication exists in the services provided by WISCAT and OCLC, but both databases are required to adequately meet the different needs of large and small libraries. Because the committee found no evidence that combining the services would result in lower costs, the council supports continuation of separate WISCAT and OCLC databases. However, the division should explore the feasibility of adding WISCAT holdings to the OCLC database.

The report also includes recommendations regarding further automation of interlibrary loan, online database searching, linking of automated systems, and remote access to automated library systems.

So that the needs of small public and school libraries for products and services are not overlooked, other recommendations involve the role of the division in helping small public and school libraries to automate. COLAND made recommendations on the role of public library systems in planning and implementing automation at area and local levels because public library systems have a statutory responsibility to engage in continuous automation planning with their participating libraries and counties and with the division. The significant role of academic and special libraries in statewide library automation planning efforts is also recognized in several recommendations.

The need for continuous planning among all types of libraries is stressed throughout this report, but no specific planning structure is defined. COLAND hopes this report will encourage automation planning at the local, area, and state levels because the automation of library operations will continue to significantly affect library services. This report also recognizes the need for state funding support for the WISCAT database and for automation efforts at the area and local levels.

The committee views this document as a short-range guide in the long and exciting continuum of technological development. The council expects the division to engage in continual planning to assure that libraries will have access to the most appropriate and cost effective technological resources available. Thoughtful planning will lead to improved and enriched library services for all of Wisconsin's citizens.

Council on Library and Network Development
1986-1987 Members

Ruth Schmidt, president
P.O. Box 513
Elkhart Lake, WI 53020

Venora McKinney, vice president
814 West Wisconsin Avenue
Milwaukee, WI 53233
(Deputy Director, Milwaukee Public Library and Milwaukee County Federated Library System)

Jan Coombs, secretary
909 Martin Drive
Marshfield, WI 54449

Paul Moriarty, member-at-large*
615 Ridge Avenue
Platteville, WI 53818
(Assistant Director of Libraries, UW-Platteville)

David Barnard*
1303 10th Avenue
Menomonie, WI 54751

Charles Brenden*
Route 1, Box 149A
River Falls, WI 54022

Joyce Feustel
2421 Monroe Street
Madison, WI 53711

Norman N. Gill
7950 North Regent Road
Fox Point, WI 53217

James Klein*
P.O. Box 2019
Appleton, WI 54913
(Media Services Supervisor, Appleton Area School District)

Mary Kotschi*
1421 West New York Avenue
Oshkosh, WI 54901
(Director of Library Services, Winnebago Mental Health Institute)

James Krems
260A Evergreen Road
Rosholt, WI 54473

Karen Krueger*
316 Main Street
Janesville, WI 53545
(Director, Janesville Public Library)

Eugene G. McLane
32 Sheboygan Street
Fond du Lac, WI 54935
(Director, Fond du Lac Public Library and Mid-Wisconsin Federated Library System)

Barbara Rice
216 Spring Street
Sparta, WI 54656

William Wilson*
221 10th Street, South
Wisconsin Rapids, WI 54494
(Director, McMillan Memorial Library)

* Council members with * by their names served on the Automation Committee.

Division for Library Services
Internal Automation Committee

Richard J. Sorensen, supervisor
Instructional Media Programs
Bureau for Instructional Media and Technology (Chair)

Robert Bocher, automation consultant
Bureau for Library Development

Margaret Branson, library supervisor
Library Services and Construction Act
Bureau for Library Development

Sally Drew, director
Bureau for Reference and Loan Services

Carolyn Folke, director
Bureau for Instructional Media and Technology

Larry Nix, director
Bureau for Library Development

Leslyn Shires, assistant superintendent
Division for Library Services

Mary Struckmeyer, interloan librarian
Bureau for Reference and Loan Services

The Council Charge

The Council on Library and Network Development is charged by sec. 43.07, Wis. Stats., to:

- Advise the state superintendent in regard to the state's policies and programs for library and network development and interlibrary cooperation.

- Make recommendations to the Division for Library Services in regard to the development of standards for public libraries and the certification of public librarians.

- Advise the state superintendent in regard to the state's policies and programs for the development of school library media programs and facilities and the coordination of these programs with other library services.

- Hold a biennial meeting to review the state superintendent's report on library cooperation and resource sharing and make recommendations to the superintendent regarding that report.

- Meet with Division for Library Services staff during the budgetary process to review and comment on that portion of the budget relating to library services and, if deemed appropriate, transmit recommendations regarding that budget to the governor.

- Receive complaints, suggestions, and inquiries in regard to the programs and policies of the Department of Public Instruction relating to library and network development; make an appropriate study of each issue brought to its attention; and recommend appropriate action to the state superintendent and the Division for Library Services.

- Prepare a biennial descriptive and statistical report on the condition and progress of library services in the state (with recommendations for improving library services) for transmittal to the governor and legislature.

Acronyms

The following is a list of acronyms used in this publication.

AACR II	Anglo-American Cataloging Rules, second edition
ALANET	An electronic bulletin board service of the American Library Association
BBS	Bulletin Board System (a computer to computer communication system)
BIMT	Bureau for Instructional Media and Technology (part of the Division for Library Services)
BLD	Bureau for Library Development (part of the Division for Library Services)
BRS	Bibliographic Retrieval Service (an online database vendor)
CD-ROM	Compact Disc, Read Only Memory (a medium for storing data electronically)
CESA	Cooperative Educational Services Agency
COLAND	Council on Library and Network Development
COM	Computer Output Microfilm
COWL	Council of Wisconsin Libraries
DIALOG	Not an acronym; a trade name for an online database vendor
DPI	(Wisconsin) Department of Public Instruction
ECB	(Wisconsin) Educational Communications Board
GPO	Government Printing Office
ILL	Interlibrary Loan
IMC	Instructional Media Center (also Instructional Materials Center)
LCCN	Library of Congress Card Number
LSCA	Library Services and Construction Act
MARC	Machine Readable Cataloging (bibliographic description encoded for computer processing)
MCL	Microcomputer Center/Library (part of the Wisconsin Department of Public Instruction)
MINITEX	Minnesota Interlibrary Telecommunications Exchange
MITINET	Trade name for a computer program to convert catalog card contents to a machine readable format
NIE	National Institute of Education (part of the U.S. Department of Education)
NOTIS	Northwestern Online Total Integrated System (an automated catalog and circulation system)
NUC	National Union Catalog (cataloging data for books in major U.S. libraries)
OCLC	Online Computer Library Center (a national shared cataloging data service)
OSIS	Open Systems Interconnection Standard (a standard for designing computer interface systems)
RFI	Request for Information
RFP	Request for Proposal
RLIN	Research Library Information Network (a national shared cataloging data service)
VTAE	Vocational, Technical, and Adult Education
WEMA	Wisconsin Educational Media Association
WDP	Wisconsin Dissemination Program (a subscription-based database searching service for Wisconsin schools)
WILS	Wisconsin Interlibrary Services (a subscription-based interlibrary lending and reference service)
WISCAT	Wisconsin Catalog (a database of cataloging information for items owned by Wisconsin libraries)
WLA	Wisconsin Library Association
WLN	Western Library Network

Summary of Recommendations

Issue 1: For what purposes should bibliographic database(s) be developed, and what role should the Division for Library Services play in bibliographic database development in Wisconsin?

The Division for Library Services should:

- Continue to develop a database of bibliographic records for the purpose of creating a statewide resource-sharing tool and as a source of MARC records for local automation projects for libraries of all types and sizes.
- Study the need for and the feasibility of using the database for cataloging and use as a public catalog.
- Continue to analyze the relationships among national, state, area, and local database development, and the impact of changing technology on database maintenance and product development.
- Fund database development and maintenance at the state level with state funds.
- Continue to seek to further clarify the ownership rights of libraries in relation to bibliographic records and their holdings.
- Urge COWL to continue to support and produce the Wisconsin Union List of Serials.

Issue 2: What should be the relationship between the WISCAT database and OCLC?

Separate WISCAT and OCLC databases should be maintained.

The Division for Library Services should:

- Continue to maintain the WISCAT database
- Encourage the Council of Wisconsin Libraries (COWL) to continue offering OCLC services to Wisconsin libraries
- Explore the possibility of adding WISCAT holdings to the OCLC database.

Issue 3: What systems should be used to add MARC bibliographic records and library holdings information to the WISCAT database?

No records should be processed for inclusion in the database that are not in the MARC format.

The Division for Library Services should:

- Support the systems (OCLC and MITINET) currently used to add records and holdings to the database
- Develop criteria for using and testing other systems to add MARC records and holdings to the database
- Continue to encourage libraries to convert their catalog information into the MARC format.

Issue 4: How should the quality of the data in the WISCAT database be maintained and improved?

The quality of the WISCAT database should be the responsibility of each participating library, the public library systems, and the Division for Library Services.

Each participating library should be responsible for the following

- Enter accurate and complete records and holdings to the database
- Maintain the accuracy of the data after it is entered.

Public library systems should assist their members in maintaining the quality of the database. This may be done in the following ways

- Sponsor cataloging workshops
- Monitor conversion projects.

The Division for Library Services should:

- Develop cataloging standards for entry of MARC records and holdings into the database
- Review incoming data, when possible, to insure adherence to the standards
- Explore other quality control measures including authority control, further elimination of duplicate records and other procedures
- Have online access to the database and increased staff to initiate quality control procedures.

Issue 5: In what form(s) should the WISCAT database be produced for use, and how should the information be accessed?

The Division for Library Services should:

- Continue for the present to produce microfiche copies of the database.
- Experiment with the production of the database on CD-ROM. If this proves successful, the microfiche version of the catalog should be gradually phased out.
- Explore increasing the timeliness of the database by producing supplements.
- Continue to explore the feasibility and benefits of online access in the future.

Issue 6: In what form(s) should records from the WISCAT database be provided to libraries for use in local or area automated systems?

Libraries should be informed that they have a variety of options for receiving MARC records and other products from the WISCAT database.

The Division for Library Services should:

- Prepare a paper outlining the options that libraries have and the costs for receiving MARC records or other products from the database
- Continue to work with libraries to use MARC records in automated systems including microcomputer based systems.

Libraries should:

- Select automated systems that accept MARC records
- Inform the Division concerning the type of MARC tape their system requires and if any modifications are needed to the MARC record and/or holdings.

Issue 7: What agency(ies) should be responsible for funding each of the following:

- *Current cataloging of library records in machine-readable form?*
- *Retrospective conversion of library records to machine-readable form?*
- *Maintenance of the database?*
- *Access to the statewide database (offline products or online database)?*
- *Equipment purchase and maintenance?*
- *Local products created from the database?*

The Division for Library Services should:

- Continue to pay for development and maintenance of the WISCAT database, including administrative, research and development, training and consultation costs, and the costs of the database masters for microfiche or CD-ROM products.
- If the CD-ROM experiment is successful, explore incentive grants for sharing the initial costs of equipment for libraries of all types and sizes to ensure wide distribution of the CD-ROM version of WISCAT.
- Continue to subsidize the costs of retrospective conversion through a competitive grant program.
- Seek state funds for support of the WISCAT project. Until state funds are available, continue to use LSCA funds to carry out the database program.

Local libraries should:

- Fund current cataloging, retrospective conversion, purchase of the statewide microfiche or CD-ROM, and related equipment and maintenance costs.
- Purchase local products developed from the statewide database, if desired.

Public library systems should consider subsidizing the cost of cataloging, retrospective conversion and microfiche or CD-ROM catalogs and any systemwide products developed from the database.

Issue 8: What is the most practical and effective means of utilizing automation to obtain information from statewide resource-sharing tools, to send and receive interlibrary loan requests to all types and sizes of libraries, and to track and manage the interlibrary loan process in Wisconsin?

The Division for Library Services should:

- Continue to encourage systems to implement bulletin board systems for use by system member libraries and other area libraries.
- Conduct a cost study to determine the most effective means of improving the current system and seek funding to install an improved system in state level clearinghouses and resource libraries and, when fully tested, in system interlibrary loan clearinghouses.

Issue 9: What should the role of the Division for Library Services be in helping small public and school libraries automate?

The Division for Library Services should:

- Employ a state-funded full-time position to continue automation consultant services through the Bureau for Library Development to assure sound planning for automation and cost effectiveness.
- Encourage continuing education programs focusing on planning for and implementation of automation.
- Expand consultant services in planning and implementing library automation from the Bureau for Instructional Media and Technology through state funding.
- Demonstrate use of technology and library automation products through the DPI Microcomputer Center/Library and Bureau for Interlibrary Loan and Resource Sharing.
- Maintain the WISCAT database and the MITINET software and provide incentive grants with federal funds.

Issue 10: What should the role of the Division for Library Services be in funding and providing access to online database services?

The Division for Library Services should:

- Develop a statement of philosophy supporting free access to information in all formats, including online sources.
- Encourage the integration of database searching with other services by sponsoring workshops and providing consultation.
- Maintain and promote the Microcomputer Center/Library as a demonstration site for efficient and extensive use of electronic information services.
- Continue the Wisconsin Dissemination Program and the brokering of database search services for Wisconsin libraries.

Issue 11: What should the role of the public library system be in planning and implementing automation at the area and local levels?

Public library systems should:

- Provide leadership in the development of library automation in the system area for all types of libraries.
- Develop plans for systemwide library automation which are compatible with the state superintendent's policy statement on library automation.
- Provide technical assistance and inservice training for its member libraries on library automation possibly through intersystem agreements.
- Provide incentives for members to participate in systemwide automation efforts and work to ensure that the holdings of their member libraries are included in a statewide union database with access to the database by all member libraries.
- Explore cost-effective methods for providing cataloging information to libraries and library catalogs to the public.

Issue 12: Should the Division for Library Services encourage and/or support the establishment and maintenance of remote access mechanisms for use with automated library systems?

The Division for Library Services should incorporate discussions of remote access issues into the ongoing study of interlibrary loan and should coordinate any planning efforts involving remote access with public library systems, libraries of all types, and with the Council of Wisconsin Libraries.

Issue 13: Should the Division for Library Services encourage and/or support the establishment and maintenance of linking mechanisms between automated library systems?

The Division for Library Services should:

- Facilitate continuing education opportunities for the Wisconsin library community in the area of linking and accessing automated library systems.
- Encourage vendors of library systems to adopt the open systems interconnection standard.
- Coordinate planning efforts in this area with public library systems, libraries of all types, and with the Council of Wisconsin Libraries.

Issue 14: How should the Division for Library Services cooperate with academic and special libraries in the area of library automation?

The Division for Library Services should:

- Continue to include academic and special libraries in its automation planning efforts and in statewide automation projects such as the WISCAT database
- Continue to participate in the state level automation planning efforts involving academic and special libraries
- Promote the involvement and cooperation of academic and special libraries in the library automation planning efforts of public library systems.

Issue 1

DLS and Bibliographic Database Development

Question: For what purposes should bibliographic database(s) be developed, and what role should the Division for Library Services play in bibliographic database development in Wisconsin?

Background

Development of computerized bibliographic records has been a division priority for 12 years. The division first began to assist libraries in the creation of bibliographic records in the mid-1970s. Library Services and Construction Act (LSCA) funds have been used to stimulate automation in libraries and to implement automation projects statewide. In 1974 and 1975, $167,266 in LSCA funds were allocated to the Milwaukee Public Library to enter holdings for libraries in surrounding counties into the Milwaukee Public Library database.

The introduction of the Library of Congress Machine-Readable Catalog (MARC) standard into library automation and of Online Computer Library Center (OCLC), a non-profit cataloging utility, into Wisconsin called the Milwaukee project into question, and it was discontinued. Between 1975-82, $601,000 in LSCA funds were allocated to libraries to pay for start up costs for OCLC services and demonstration of OCLC processing centers and terminal sharing agreements. During the same period, a few libraries funded local automation projects, none of which used the MARC standard.

In 1978, the division initiated a major planning effort to look at automation needs at both the local and state levels. A statewide automation committee was appointed, and consultants were hired. In late 1980, the consultants' report, *The Effective Use of Automation in Wisconsin Libraries, 1981-1985*, was published. Following further discussion by the library community, a draft policy statement was developed and more comment solicited. The *Wisconsin Department of Public Instruction Policy Statement on Library Automation* was published in the March, 1982, issue of *Channel DLS*. Subsequently, other studies have been undertaken by the division and other organizations to look further at issues defined in these reports or to raise other issues.

Both the 1980 consultants' report and the DPI policy statement recommended development of a database of library materials that included holdings of large and small Wisconsin libraries and that would be produced in a format which could be distributed to libraries of all types and sizes throughout the state. Before a database or other products could be created or used, it was necessary to identify methods by which various types and sizes of libraries could convert bibliographic (card catalog) information to computerized (machine-readable) form using the MARC standard.

Division staff judged that conversion of bibliographic information to machine-readable form was the key to any future automated development, at the state or local level. Once completed, a variety of products could potentially be created, and the format of these products could change as technology changed. In 1983, the Wisconsin Catalog (WISCAT) project was undertaken to provide a statewide resource-sharing tool (the microfiche) and a database from which all types and sizes of libraries could extract machine-readable catalog records for use in local or area automation projects.

Large academic and public libraries used OCLC to convert bibliographic information into machine-readable form. Between 1977-1986, $951,000 in LSCA funds were spent to convert retrospective holdings for OCLC libraries. OCLC is currently used by 175 Wisconsin libraries for cataloging, and many have carried out retrospective conversion projects.

The WISCAT database was developed by merging existing machine-readable records contributed by libraries already involved in automation. At that time, the most economical means of distributing the information to all libraries was on microfiche. The first edition of the WISCAT microfiche contained 1.4 million titles from 139 libraries. The fifth edition contains 3 million titles and 12.5 million holdings from 460 libraries.

To allow libraries which were not OCLC members to add bibliographic information and holdings to the database, the division developed two microcomputer programs in conjunction with Information Transform, Inc. The first program (MITINET/retro) allows libraries to add their holdings to bibliographic records already in the WISCAT database or in the Library of Congress MARC database. The second program (MITINET/marc) allows libraries to add unique titles to the database using the MARC format. MITINET/retro is being used by 315 libraries, and MITINET/marc, which was released in June 1986, is used by approximately 140 libraries. Between 1983 and 1986, $680,000 in LSCA funds were spent to convert retrospective holdings for MITINET libraries.

Libraries use WISCAT for many purposes on a daily basis. Examples of current uses are listed below.

- Interlibrary loan at the area and state levels
- Verifying and locating titles
- Retrospective conversion (using the MITINET program)
- Reference work
- Development of subject area bibliographies
- Selection of materials
- Guide to selecting call numbers
- Guide to selecting and using subject headings
- Cataloging of older titles
- Backup to automated circulation and online catalog systems
- Training in use of library catalogs and library services
- Guide for catalog card filing rules
- Use as a public catalog

Local libraries and public library systems have used machine-readable records extracted from the WISCAT database in local automation projects. Several systems have used or are planning to use a combination of OCLC records and records created using MITINET in minicomputer based circulation and online catalog systems. The division has assisted several schools in formatting MARC records extracted from the database for use in local microcomputer based circulation and online catalog systems which do not use MARC records.

Between 1978-1982, the division awarded $224,300 to the Council of Wisconsin Libraries (COWL) for production of a Wisconsin Union List of Serials. The initial list was developed in cooperation with Minnesota Interlibrary Telecommunications Exchange (MINITEX). When the MINITEX project was discontinued, much of the information was entered into OCLC. The 1986 union list, produced on microfiche, contained 63,475 serial titles and holdings for 370 libraries. COWL has continued to support the production of the union list by providing funds for the entry of serials information. LSCA grant funds were used for distribution of microfiche readers to libraries of all types.

Database development has also continued at the national and international level. The OCLC database contains over 13.5 million unique bibliographic records and 233 million holdings. Over 6,000 libraries belong to OCLC. Research Library Information Network (RLIN) has a database of similar

size, but membership is more limited. The Western Library Network (WLN) was originally operated by the Washington State Library and now has members outside Washington. The UTLAS database was originally developed by Canadian libraries (University of Toronto) and is now being marketed by a commercial firm. Other commercial firms also make database development and other automation services available to libraries.

The Problem

1. The technology is changing rapidly, and in the future, there will be alternative means of maintaining, producing, and distributing databases. Alternative technologies may make use easier and improve access to the data but may not be less expensive. As new technologies emerge, it is difficult to identify their impact and the cost of implementing them.

2. LSCA funding is still used to fund all costs associated with the WISCAT project. There will be a decrease in both state and federal funds over the next two to three years. Lack of sufficient funding could inhibit the division's ability to distribute the database to new libraries or to allow new libraries to contribute records. The division may not be able to pay all costs associated with the maintenance and distribution of the database.

3. Bibliographic database development is currently taking place at many levels. For example, OCLC is a national online database while WISCAT is a statewide database. As libraries contribute records to WISCAT through means other than OCLC, these records are not automatically entered into the OCLC database. In addition, libraries create machine-readable bibliographic records for local use which may not be included in either area, state, or local databases. As library staff become involved in adding information to multiple databases, it may become increasingly difficult to keep each up-to-date.

4. The WISCAT database has grown substantially since the first edition was produced. While the microfiche still provides a useful format, the database is becoming larger. (The 1986 edition contained nearly 5,000 fiche). Size can cause storage and retrieval problems for library staff and patrons. And as the size of the database increases, the cost of maintaining and updating the database and producing the microfiche increases.

5. OCLC's recent publication, *Transfer of OCLC-Derived Machine-Readable Records to Third Parties: Principles and Guidelines* places restrictions on the use of records purchased from OCLC. These restrictions may affect the ability of the division to provide machine-readable records to non-OCLC libraries participating in the WISCAT project.

6. The division has placed a major emphasis on equal access for small libraries in participating and having access to bibliographic information in database(s). The use of the microcomputer programs developed by the division and the production and distribution of the microfiche have allowed small libraries to participate in a cost-effective manner. Potential changes in production and distribution methods for bibliographic database(s) could negatively affect small library participation.

7. The database was originally developed for the purpose of providing a resource sharing tool and a source of machine-readable bibliographic records. Once the database was available on microfiche, librarians and library users found additional uses for the information it contained. If the format of the database is changed in the future, there is a potential for additional types of use. It is important to consider which uses should be given priority in order to choose the format and technology which would best meet library needs.

Recommendations

The Division for Library Services should undertake the following activities

1. Continue a project which will allow use of the WISCAT database for the following purposes:

   a. Development of an interlibrary loan tool for verification of specific titles and library holdings.

   b. Development of a reference tool for verifying available information on specific subjects and verifying complex bibliographic citations.

   c. Development of a database which could be used by libraries to create machine-readable bibliographic records for use in local and area level automation projects.

   d. Development of a tool which could be used as a guide for selecting miscellaneous pieces of cataloging information; such as call numbers, subject headings, correct main entries, catalog card filing rules, and other information.

   e. Development of a tool for use in selection of materials for library collections.

   f. Development of a catalog which could be used by local libraries as a backup to local online circulation systems or library catalogs.

   g. Development of a catalog which could be used by library users to supplement local library catalogs.

2. Study the need for and feasibility of use of the database for the following purposes:

   a. Development of a tool which could be used as a primary source of current cataloging information.

      Note: Cataloging is defined here as the initial process of purchasing or creating local library catalog information, for items recently purchased for the library, when this information is the primary source of information for patrons on what is available in that library. To be useful, cataloging information must be available at the time the item is purchased.

   b. Development of a database which could be used in an automated system to replace local library public catalogs for library users.

3. Continue development of a database of machine-readable bibliographic records, contributed by Wisconsin libraries of all types and sizes, which can be used for a variety of state, area, and local purposes.

4. Continuously analyze the impact of changing technology on the methods of creating and updating machine-readable records and methods of producing access to and products from database(s).

5. Continuously analyze the relationships among national, state, area, and local database development.

6. Fund database development and maintenance at the state level with state funds.

7. Explore the economic and technical feasibility of loading Wisconsin bibliographic records and holdings into national databases such as the National Union Catalog (NUC) (if produced from machine-readable records) and OCLC.

8. Seek to clarify the ownership rights of libraries in relation to machine-readable bibliographic records.

9. Continue to provide for a means for small libraries to economically create machine-readable bibliographic records and take part in area and statewide resource sharing programs.

10. Urge COWL to continue to support and produce the Wisconsin Union List of Serials.

Issue 2

The WISCAT Database and OCLC

Question: What should be the relationship between WISCAT and OCLC?

Background

OCLC was started by a group of academic librarians in Ohio in the late 1960s. It was formed to provide online access to materials cataloged by the Library of Congress and materials cataloged by other members of OCLC. Its initial goal was to limit the increase in cataloging costs by providing a cooperative online cataloging network and by producing catalog cards.

OCLC expanded its services beyond Ohio in the early 1970s, and COWL began to broker OCLC services to libraries in Wisconsin in 1976. Many large academic libraries and public library system resource libraries were using OCLC for cataloging services by 1980. Several public library systems and the UW Centers provide centralized processing to their member libraries. The division also provides centralized processing services to many state agency libraries.

As OCLC has expanded, its goals have also changed to allow use of the database for purposes other than cataloging. OCLC allows systems to improve the acquisitions process, serials control and interlibrary loan for its member libraries. OCLC is currently upgrading its systems and services through its Oxford Project.

The OCLC database is particularly important for interlibrary loan because libraries with direct access to the database can determine what other libraries hold a specific title. Once the location is known, the item can be requested via the OCLC interloan system or by other transmission methods. At this time, approximately 50 libraries in Wisconsin are using the OCLC interloan system.

The OCLC database currently contains the holdings of 175 Wisconsin libraries. Approximately 100 libraries have direct online access to the database. The other 75 libraries are members of processing centers and do not have direct access. Another 6,700 libraries outside Wisconsin also use OCLC. The OCLC database contains about 13.5 million bibliographic records and 233 million holdings.

OCLC is governed by a board of 16 individuals, librarians as well as nonlibrarians. There is a User's Council made up of member libraries that has representation on the board. Delegates from the User's Council hold 6 seats on the OCLC Board.

The development of WISCAT was a major recommendation in the DPI's *Policy Statement on Library Automation*. This statement was based on surveys taken by a statewide Automation Planning Committee and a consultant's report. A request for proposal was written, and, through competitive bidding, Brodart, Inc. was selected as the vendor to create WISCAT. The first WISCAT microfiche catalog was produced in March 1983. It contained 1.4 million titles and 4.5 million holdings from 139 participating libraries.

There were, and remain, two primary goals for development of WISCAT: to provide a resource sharing tool available for libraries of all types and sizes, and to provide a source of MARC records for libraries to use in local and/or area automated systems. Other purposes and uses of the WISCAT Union Catalog include the following.

- Reference work
- Retrospective conversion (MITINET program)
- Development of subject area bibliographies
- Material selection
- Guide to selecting call numbers
- Guide to selecting subject headings
- Guide to obtaining cataloging information for older items
- Backup to online catalogs
- Training in the use of library catalogs
- Use as a public catalog
- Guide for catalog card filing rules

In addition to the above uses of WISCAT, numerous products have been produced for participating WISCAT libraries by the vendor.

Approximately 65 percent of the libraries now contributing their holdings for inclusion in WISCAT do not use OCLC. Almost all of these libraries use the MITINET conversion system developed by DPI and Information Transform Inc.

Currently, the WISCAT V database contains the holding from approximately 460 Wisconsin libraries. The WISCAT database has 3 million bibliographic records and 12.5 million holdings.

OCLC's initial goal was to limit the cost increases libraries were incurring to catalog their acquisitions. It was designed as an economical cataloging service. Goals since the late 1960s have been expanded to cover other aspects of library operations, including serials, acquisitions, and interlibrary loan. WISCAT's initial and current goals are to provide libraries (including smaller public and school libraries) with a tool for resource sharing and allow libraries to have access to MARC records for local or area automation projects. WISCAT was not designed to replace OCLC's services for resource sharing or MARC records but to expand the availability of these services to libraries that previously could not afford or did not have sufficient staff to use OCLC services.

All Wisconsin libraries using OCLC have signed an agreement with the division to contribute their bibliographic records and holdings to WISCAT. The process of adding the OCLC records and holdings to WISCAT involves no extra work or financial burden to the library. Thus, the OCLC libraries have their holdings in both the OCLC database and in WISCAT. Updating the OCLC database also automatically updates the library's holdings in WISCAT.

There are 315 libraries in the state using the MITINET microcomputer program to add their holdings and unique records to WISCAT. The holdings from the MITINET libraries appear only in WISCAT.

WISCAT also contains approximately 500,000 holdings entered by tape loading records from existing systems into WISCAT. Approximately 60,000 holdings are added annually via this method. None of these holdings are in the OCLC database, but the bibliographic records may be in OCLC.

The Problem

There is a general perception the OCLC database and WISCAT duplicate and compete with each other and that if they were combined the same services could be provided at a lower cost.

The three alternatives below reflect the possible relationships between OCLC and WISCAT.

Alternative 1: Maintain the current relationship with separate OCLC and WISCAT databases.

Access to OCLC would be through dedicated lines or by dial-up service. Access to WISCAT would be provided by the current microfiche or possibly CD-ROM at a future date.

OCLC and WISCAT were developed for different purposes. OCLC is designed as a network to provide cataloging services and machine-readable records to its members. WISCAT is designed as a union catalog to provide a tool for resource sharing and machine-readable records to its members.

The purpose and intent of OCLC and WISCAT is not to compete with each other but to complement the services provided by both. The two different databases serve different needs of different libraries. WISCAT is designed primarily for libraries that cannot afford the services provided by OCLC. It has potentially allowed all libraries in Wisconsin to share their resources and convert their collections into the MARC format for future automation projects.

While both OCLC and WISCAT provide parallel services, they also provide different services to the libraries using them. Some of these differences are noted below.

1. OCLC provides a current cataloging service that allows libraries to modify a cataloging record and receive catalog cards. WISCAT does not provide current cataloging or catalog cards.

2. OCLC provides an online interloan component to facilitate interlibrary loan. WISCAT does not have any direct transmission component. Both OCLC and WISCAT are used for interlibrary loan.

3. Libraries using OCLC have access to the holdings of other OCLC libraries outside Wisconsin. Libraries using WISCAT do not have access to holdings of non-Wisconsin libraries.

4. Holdings statements in WISCAT are in an English-readable form. Holdings are grouped by area and include branch locations, collection codes (Ref, Juv, etc.) and the library's specific call number. OCLC holdings are by a four-letter non-mnemonic code and do not contain an English-readable form of the library's name, branch names or local call numbers.

5. OCLC in its current form does not provide subject access, although part of the OCLC database can be searched by subject through the Bibliographic Retrieval Service (BRS), an online database vendor. Author and title access is possible only through a truncated search procedure. While OCLC may be addressing some of these limitations in its Oxford Project, the enhancements are not currently available. WISCAT provides subject access.

6. Entering original cataloging using OCLC requires library staff to be very knowledgeable in the MARC format. Entering original cataloging with the MITINET/marc program used by non-OCLC libraries does not require staff to know the MARC format.

7. By maintaining both WISCAT and OCLC, the following products can be (and have been) produced from WISCAT. These products would not be available from OCLC if it was the de facto state database.

    a. Computer Output Microfilm (COM) catalogs for individual libraries or area-wide union catalogs.

    b. CD-ROM catalogs for individual or areawide union catalog and searching software to provide author, title, subject, and keyword access.

c. Floppy disks with bibliographic records reformatted to interface with other vendors' microcomputer-based circulation and cataloging programs.

d. Author and subject authority control on local catalogs.

e. Maintenance on a library's master file including maintaining all local editing and elimination of duplicate records.

f. Customized record processing based on a library's specifications.

g. Extraction of bibliographic records in both the OCLC and library of Congress MARC formats.

h. Extractions done for individual libraries or for groups of libraries (multiple holdings on one bibliographic record).

i. Government Printing Office machine-readable records can be obtained without a library doing record-by-record conversion.

(Note: While libraries could contract for these products through another vendor if OCLC was the state database, the advantages of a statewide contract may not be available.)

Alternative 2: Maintain no relationship between OCLC and WISCAT.

No relationship would exist under this alternative because there would be only one "state" database, either OCLC or WISCAT. The entry of all cataloging and holdings would be via the one database supported. If WISCAT were selected as the sole state database, it would be online through a vendor contract and provide similar cataloging services now provided by OCLC. Online access to OCLC or WISCAT would be either through dedicated lines or by dial-up. All holdings and records would be in one database.

1. This alternative would provide all participating libraries with the ability to conduct cataloging for new acquisitions and receive catalog cards.

2. If OCLC were to become the state database, libraries would have online access to holdings of other OCLC libraries outside Wisconsin. Libraries could also use the OCLC interlibrary loan program.

3. If WISCAT were online through Brodart or another vendor, it could also be used by participating libraries as an online catalog. (Most vendors have online catalog software designed to be used by the public.)

4. Online access via dedicated lines for some libraries and dial-up for other libraries may not be viewed as equal access.

5. With OCLC as the state database, the same limitations as listed under Alternative 1 would exist.

6. Online access to WISCAT would probably necessitate a major increase in computing resources for the vendor. It is not known if any vendors (except OCLC) could provide WISCAT online without a major upgrade to their systems.

7. A considerable amount of initial training and ongoing support would be needed with 500 libraries having access to either OCLC or WISCAT. Library staff would need to be familiar with the MARC format to enter items not found on the OCLC or WISCAT databases.

8. Costs to all libraries having access to either OCLC or WISCAT may be much greater than having separate databases as outlined in Alternative 1. The question of cost is being addressed in the appendix. With OCLC as the sole vendor, ability to control costs or products is minimal. Using OCLC in a noncompetitive environment reduces a library's bargaining power and flexibility. A library may have little influence on actions taken by the OCLC Board that are deemed detrimental to the union catalog project. The state may not be able to contract with another vendor whose products and prices are better than OCLC's.

Alternative 3: Maintain separate OCLC and separate WISCAT databases but load WISCAT holdings not in OCLC into that database.

Access to OCLC would be through dedicated lines or by dial-up service. Access to WISCAT would be provided by the current microfiche or possibly CD-ROM at a future date.

1. In addition to the reasons for having separate databases as outlined in Alternative 1, this option would provide access for OCLC libraries to all holdings and records currently on WISCAT but not on OCLC.

2. Programs would have to be developed for adding the WISCAT holdings and records to OCLC. Maintenance programs would also need to be developed to keep the added holdings and records accurate. Who would pay the costs associated with loading the holdings and records would have to be clarified. The issue of ownership of records would also have to be addressed.

Recommendation

It is recommended that separate OCLC and WISCAT databases be maintained and the possibility of adding WISCAT holdings to the OCLC database be explored.

Issue 3

Adding Records to the WISCAT Database

Question: What systems should be used to add MARC bibliographic records and library holdings information to the WISCAT database?

Background

All bibliographic records now submitted by libraries for inclusion in the WISCAT database are in the MARC format. This follows the DPI Automation Policy Statement which "urges libraries to create machine-readable records according to nationally recognized standards." The database could not have been developed without following the MARC format standard.

The MARC format for bibliographic records was developed in the late 1960s by the Library of Congress and a group of public and academic libraries. It is a recognized standard for storing bibliographic data in a computerized format. However, the holdings statements, that show which libraries own copies of each title in the database, are in a *vendor-defined* holdings format. A MARC format for holdings was not available until 1985. Because of the previous investment in software, most vendors (including Brodart, the vendor for the database, and OCLC) have not implemented the new MARC holdings format.

There are five methods being used by Wisconsin libraries to add MARC records and/or holdings to the WISCAT database. The methods are:

- Records and holdings added using the OCLC system.
- Records added from the Library of Congress MARC database.
- Holdings added using MITINET/retro.
- Records and holdings added using MITINET/marc.
- Records and holdings added from three libraries' local automated systems.

OCLC. All Wisconsin libraries using OCLC contribute their machine-readable records and holdings to the database. Approximately 90 percent of the bibliographic records and 40 percent of the holdings added annually to the database come from OCLC member libraries. Approximately 50 to 60 percent of these records are Library of Congress MARC records.

The programs used by the vendor, Brodart Inc., are able to determine if a record previously cataloged via OCLC is already in the database. If the record from an OCLC tape is in the database, only the holdings are added. If the record is not in the database, the entire bibliographic record along with the library's holdings are added to the database.

MARC. The second method used to add MARC records to the database is to identify records that have been cataloged by the Library of Congress but have not been cataloged on OCLC by a Wisconsin library. There are two methods by which this is done.

1. Libraries using the MITINET/retro conversion system are supplied a copy of the Library of Congress records on microfiche (LC fiche). When they cannot find a match for a record on WISCAT, they search the LC fiche. Matches found on the LC fiche are reported to the vendor and added to the database as unique records, along with the library's holdings. The LC fiche is printed monthly, with a full cumulation printed annually.

2. The three libraries currently contributing records from their local systems are able to extract MARC records from the MARC database through a complex matching process. Their holdings data are appended to the matched MARC record, and both the record and holdings are merged into the database.

MITINET/retro. Most Wisconsin libraries do not catalog using OCLC. To allow these libraries to participate in the database, the MITINET program was developed. MITINET/retro allows libraries to match a record already in the database and add their holdings to that record. New acquisitions are entered using the monthly edition of the MARC fiche. Most libraries are able to match 90 percent of their collection.

MITINET/marc. On average, 10 percent of a library's collection cannot be matched using the MITINET/retro program those libraries are able to use MITINET/marc. This program enables a user to catalog items in their collection without having to know the complex field and subfield relationships that are part of the MARC format. The unique records and holdings created using MITINET/marc are added to the database in a manner similar to the method now used by OCLC libraries. The program uses the new MARC holdings format. MITINET/marc is now being used by 140 libraries in the state.

Local automated systems. Non-MARC records have been added to the database from seven libraries. This was done before the MITINET program became available. The records from three of these libraries continue to be added from their non-MARC systems. The three libraries include two school districts and one VTAE institution. The inclusion of non-MARC records expands the number of unique titles added to the database. Technically, the non-MARC records are converted into the MARC format by the vendor just prior to their merger into the database.

The non-MARC records from these libraries have been "grandfathered" into the database because they existed before the DPI Automation Policy Statement and subsequent development of the WISCAT database. Because of technical problems inherent with non-MARC records, libraries that are now creating non-MARC records will *not* be able to enter them into the database.

The Problem

Few problems are encountered when adding records and holdings to the database using one of the first four methods described above. Adding records and holdings from other cataloging services now being marketed or from local automated systems have caused, and will continue to cause, problems for the following reasons.

1. Library automation vendors offer varying levels of compliance with the MARC standard. Microcomputer-based programs now being marketed allow libraries to convert their cataloging information into machine-readable form. Some of these programs produce MARC records, but others do not. None as far as is known use the MARC holdings format. Most librarians not familiar with the full MARC format may not know what questions to ask a vendor. Simply asking if the vendor uses the MARC format is not enough to insure that the MARC format is *fully*

supported. Microcomputer-based circulation systems and microcomputer online catalogs almost never use the MARC format. Most vendors have their own format.

2. Variations in use of the MARC standard may require use of software programs to translate records before they can be transferred to the WISCAT database or to another database. To determine if it is possible to process MARC records from a system not currently being used to add records to the database will demand a considerable amount of staff time. Yet if such assessments are not made, the division may be placed in a position of constantly reacting to libraries' inquiries concerning the many alternatives now available. Extensive testing of each system will have to be conducted to ensure full compatibility with the complex processes now used to add records and holdings to the database. Time will also be needed to work on the exact method and procedures used for transmitting MARC records and holdings to the database vendor.

   Microcomputer-based circulation systems and online catalogs are becoming more popular throughout Wisconsin, especially in schools. Because the records are in a non-MARC format and unique for each vendor, it would take an exorbitant amount of staff time to modify the database input routines to accept these brief records.

3. Even after new records have been added, quality control problems will exist with systems not currently being used to add records and holdings to the database. For example, microcomputer-based systems have no quality control to ensure correct entry of the holdings data. Much time would also have to be spent at the local level "cleaning-up" all the problems the brief records would generate. Problems include mistyped records, mismatched records, and multiple-matched records. Based on previous experience, it takes more time to enter records locally and deal with the problems they generate than it does to enter records and holdings into the database using one of the methods currently supported.

4. The MARC standard did not specify a holdings format prior to 1985.

Recommendations

1. The division should continue encouraging libraries to convert their collection to the MARC format.

2. Adding and maintaining accurate bibliographic records and holdings data in WISCAT is primarily the responsibility of local libraries, regardless of the method used to add or maintain records and/or holdings.

3. Division staff should develop criteria for entry of MARC records and holdings into the database and should make these criteria available to libraries and vendors.

4. The division should assign additional staff to do a thorough investigation of other systems for adding MARC records and holdings to the database. As time permits, current staff should investigate other systems.

5. Conversion of the data from a system not currently supported should be done only if the library agrees to work closely with the division and the vendor to implement the new system. A successful test should be conducted with any new system before "real" records and holdings are added to the database, and the cost of testing should be supported by the library and/or the proposed vendor. Until other systems for adding records and holdings are tested and approved by the division, conversion should be done using OCLC or MITINET.

6. No machine-readable records should be added to the database unless they are in the MARC format. Previous commitments to Gateway Technical Institute and the Oshkosh and Madison school systems should continue to be honored, provided those libraries do not change their systems, thus requiring software changes by the vendor or database staff.

Issue 4

Maintaining Quality in the WISCAT Database

Question: How should the quality of the data in the WISCAT database be maintained and improved?

Background

The division has provided Wisconsin libraries with a bibliographic database containing accurate and complete cataloging information in the MARC format, and accurate holdings information. Inaccurate and incomplete records and holdings adversely affect the use of WISCAT and permit errors to be introduced into local automated systems.

Records from Wisconsin libraries cataloging on the OCLC system have a low error rate. Records from the Library of Congress are of high quality. The non-MARC records added to the database were reviewed and found to be of good quality. Some of the records, especially the audiovisual records, are not as complete as the records for printed materials. Records from the MITINET/marc program are selectively reviewed by database staff.

Quality control in the database can be divided into two parts: local library responsibilities and state responsibilities (including monitoring vendor quality control procedures).

Quality control: local responsibilities. Quality control in a large union database begins at the local level, that is, in each participating library. The primary local responsibility is to ensure that complete and accurate bibliographic records and holdings are in the database. It is not possible at the state level to review each item being cataloged or the local holdings data being entered.

After records and holdings are entered into the database, it is also a local responsibility to ensure they are updated to reflect any changes. This is especially critical for holdings information. It is not possible at the state level to know of changes made to a local holding. Therefore, librarians must report any changes in location and call number to the state. Items weeded from the catalog must also be reported so a library's holdings can be removed from the database.

Quality control: state responsibilities. Once records and holdings data are received by the state, it is the responsibility of the database staff to ensure that records and holdings are properly transmitted to the vendor.

MARC tapes containing OCLC records are sent directly to the vendor after they are received from OCLC by the Wisconsin Interlibrary Service (WILS). Records from OCLC member libraries are selected using a hierarchial process. The bibliographic records from a select group of libraries are used as the master bibliographic records in the database. This ensures high quality cataloging and will assist in implementing other quality control procedures in the future. Several checks are made by database staff to ensure a minimum of errors for all MITINET/retro transactions. During the three years that libraries have used MITINET/retro, the error rate has averaged 0.3 percent. Database staff continue to refine quality control procedures and, whenever possible, make corrections to reduce errors even further.

Database staff have also been correcting records using a microcomputer program supplied by the vendor. The corrections include spelling and other errors affecting filing of entries on WISCAT. From December 1985 to February 1986, the database was online. Having online access greatly facilitated the correction of errors. Staff were able to detect errors more efficiently and make immediate corrections.

Following specifications developed by database staff, the vendor has eliminated over 50,000 duplicate records in the database. When the database was online, staff completed additional work to eliminate more duplicate titles. The process of eliminating duplicates is done annually.

Name and subject authority control have not been used on the database. Using authority control would facilitate the correct filing of entries on WISCAT. Most authors and subjects would be changed to the Library of Congress authorized headings and be correctly filed. However, use of authority control would eliminate entries used by libraries submitting some records.

The Problem

Quality Control: local problems with systems currently being used. Only a few problems exist with records submitted from OCLC libraries, the Library of Congress, or from the three local systems because these systems have their own carefully monitored procedures.

The most common problems with records from OCLC are duplication and incorrect filing indicators. Duplication results when libraries enter a record on OCLC that already exists. Most sources estimate that 10-15 percent of all OCLC records are duplicates and, because of the record processing procedures used in the state database, the same percentage of duplicates also appear in WISCAT. Filing indicators are used to tell automated systems to ignore initial articles (a, an, the) when filing entries on WISCAT. If these are incorrectly set when the item is cataloged on OCLC, a title will be misfiled under the initial article.

Two basic problems encountered with using the MITINET/marc program are the lack of cataloging expertise in the local library and the lack of accurate and complete cataloging data on the card used for entering the cataloging information on MITINET/marc. Both problems are a result of local conditions and exist regardless of the program used for conversion.

Quality Control: local problems with systems not currently being used. Some automated systems being marketed (but not currently used for entering records and holdings onto the state database) have very limited ability to detect invalid MARC fields and subfields. As part of normal quality control procedures, the database vendor verifies each record added to the database has valid fields and subfields. Records with invalid fields and subfields will create errors when merged into the database. Errors will occur because most of these programs will be used by staff not familiar with the MARC format. Virtually all systems being marketed demand some knowledge of the MARC format, especially for entry of original cataloging.

A critical concern for librarians is accuracy of local holdings information. Most vendors have their own methods for storing local holdings. With some systems, the holdings can be entered in an unstructured "free-form" manner. During 1985, over 6,000 holdings per day were added to the database. The vendor must know exactly what *every* character is in the holdings statement. Allowing "free-form" holdings entry without any error checking would result in many records that could not be processed by the vendor.

Most programs have no error checking capability to correct common spelling mistakes in critical fields, especially in the holdings field. A simple error in a library's name or area code will cause the holdings to be misfiled on WISCAT.

Holdings added by libraries using OCLC, MITINET, or currently supported local systems have mechanisms built in to eliminate most of the problems outlined above.

Quality Control: local problems with updating records and holdings on all systems. Once a library adds its records and/or holdings to the database, it is a major local responsibility to keep the records and holdings data accurate and current. This will become increasingly difficult as local systems become more popular and libraries find they must both update their local system and update their records and holdings on the state database. Many libraries may not be willing, or have the time, to keep two systems updated. If this occurs, the local system will be updated, but the records and holdings on the database may become inaccurate.

Most of the systems not currently being used have little or no capability to update records or holdings after the item is initially converted. OCLC and MITINET allow libraries to submit change or delete transactions to reflect any change after an item is converted. But there is no guarantee that it will be done. For libraries using OCLC, this is very important capability because a single update transaction updates both the state and the OCLC databases.

Quality control: state problems. With over 3 million records in the database, it is impossible to implement major quality control measures at a centralized location without an increase in staff and direct online access to the database. The microcomputer software provided by Brodart for making corrections to records is inefficient and difficult to use. Online access to the database is the best method available for making fast and efficient corrections to the database.

Staff will continue to monitor incoming records from the MITINET/marc program. Records need to be checked for completeness and common cataloging and spelling errors. Procedures have been developed at the state level in cooperation with the database vendor to eliminate duplicate records cataloged using MITINET/marc.

Recommendations

1. All libraries should acknowledge that quality control is primarily a responsibility of the local library. Quality control pertains to initial entry of records and holdings and to ongoing maintenance of the records and holdings to keep them accurate.

2. The division should have short-term online access to the WISCAT database and increased staff to initiate major quality control procedures at the state level.

3. Public library systems should sponsor cataloging workshops and monitor conversion projects to assist their members in maintaining the quality of the database.

4. The division should set minimum cataloging standards for entry of MARC records into the database and for conversion of records.

5. The entry of cataloging data using MITINET/marc should be carefully reviewed by local and division staff. When card catalog data is incomplete, libraries must do original cataloging from the physical item and not the card.

6. **Any new systems used for entry of MARC records and holdings should have some mechanism for supplying updated transactions for holdings changes.**

7. **The division should explore other quality control measures that can be implemented by the vendor. These may include authority control, further elimination of duplicate records, establishing a standard MARC holdings format, checking for cataloging errors, and other procedures.**

Issue 5

Forms of the WISCAT Database and Access

Question: In what form(s) should the WISCAT database be produced for use, and how should the information be accessed?

Background

The WISCAT database was developed by merging machine-readable bibliographic records from OCLC, MARC, MITINET/retro and MITINET/marc transactions, and local automated system records. The division contracted with Brodart to merge the records, process MITINET transactions, update the database, consolidate duplicate records, maintain indexes for these records, and process transactions to correct errors in records. The automation vendor then produces the database on microfiche available to libraries of all types and sizes.

The same machine-readable records can be produced in other forms which can be accessed in other ways. For example, the database could be loaded into a computer, and access to the information could be provided online. Another alternative would involve producing the database on CD-ROM discs which can be read using a microcomputer connected to a compact disc player designed to read computerized data. Each alternative could be implemented in several different ways and be provided by more than one vendor.

The Problem

There are three major problem areas related to development and use of the database: cost effectiveness, timeliness, and ease of use. The form in which the database is produced should be determined by how well the form overcomes these problems. If no single alternative meets all needs, priorities will have to be established.

The division has placed a major emphasis on equal access for small libraries in participating and accessing to bibliographic information. Some potential changes in production, distribution, and funding methods could negatively affect access to the information by staff in small libraries.

Alternatives

1. **Status Quo (Microfiche Database).** The microfiche database is currently produced in author, title, and subject catalog format with full bibliographic information in the title entry and briefer records at other entries.

Cost Effectiveness. The vendor maintaining the current database and producing the microfiche has been selected through a bid process. Microfiche production has appeared to be the most cost effective alternative to date. However, the database has more than doubled since the first edition of the microfiche was produced. As the size increases, the cost of producing the microfiche increases, and a single copy of a microfiche catalog now costs $575.

Because of the cost, the microfiche is currently distributed to only 420 libraries. Distribution has been largely restricted to libraries which have contributed records. The majority of medium to large public, academic, vocational-technical, state agency, and institution libraries have current copies of the microfiche. A more limited distribution has been made to school, special, and small public libraries. Older copies of the microfiche are often passed on to other libraries.

There are no specific charges associated with searching the microfiche.

Timeliness. The microfiche is produced only once a year, even though the information is updated on a quarterly basis by the vendor. This means that the information in the microfiche is from 3 to 15 months out of date.

Ease of Use. The microfiche is easy to distribute to any library in the state regardless of geographic location.

Library staff and patrons already know how to use the microfiche. It can be used with relatively little training, since it is similar to using a card catalog. It is easy to browse for titles by the same author or on the same subject. The microfiche allows for multiple access points, and if more than one reader is available, several people can use it at one time.

The microfiche must be completely reproduced and redistributed in order to integrate updated information. The size of the catalog can make use difficult if it is not well organized and filed correctly. Individual microfiche can be lost. Access time to find a record may be slower than some other methods and may be less precise or flexible. Additionally, some people do not like to use microfiche.

Unlike an online database, microfiche use cannot be interrupted because of computer failure. The database on microfiche can be used as a backup to local online catalog systems when those systems are not operating.

2. A Modified Version of the Microfiche Database. This alternative would decrease the size of the database and improve timeliness through supplements.

Cost Effectiveness. The size and cost of the catalog could be controlled by printing less information and providing fewer access points (e.g., title access only), but this would result in the product being less useful for many purposes. Supplements would probably increase the cost of the microfiche database.

Timeliness. This could be greatly improved by producing the database more often or by producing periodic supplements which update the annual database.

Ease of Use. Additional issues of the database or supplements would not improve the ease of use. In fact, they could make it more difficult to use.

3. Compact Disc — Read Only Memory (CD-ROM). CD-ROM is a relatively new technology. Most people are familiar with compact discs for sound recordings. Compact disc technology also allows storage and use of computer data. Data is accessed through use of a compact disc drive attached to a microcomputer. Use of this technology is still somewhat experimental for large databases, but this application is expected to become more common. To place WISCAT on compact disc may require 4 or 5 CD-ROM discs.

Cost Effectiveness. Producing master and duplicate copies of WISCAT is likely to be less expensive per copy than producing the microfiche. However, the equipment necessary for a library to use CD-ROM is substantially more expensive. Equipment would most likely have to be purchased by all

libraries, since few now have compact disc players or compatible microcomputers. Costs are expected to decrease in the future.

There are no charges associated with online searching using CD-ROM, and the system does not require the use of telecommunication lines. The hardware could be used with other databases and other operations.

Timeliness. Like the microfiche database, the CD-ROM database would always be out-of-date. Its timeliness could be improved by producing the catalog more frequently or by producing supplements.

Ease of Use. Searching bibliographic records is more flexible with CD-ROM than on microfiche. Searching capability will depend on the software used. Some software allows use of keyword searching techniques.

The database could be used to produce subject or author bibliographies if the software accommodates this production. The storage medium is very compact and durable. Equipment failure would be less likely than with a online system. The data can be updated only by producing a new disc since the medium is a "read only" medium.

Library staff would have to be trained to use the new technology. Each work station could be used by only one person at a time. Use by two or more would require multiple work stations or use of more sophisticated networking software and hardware.

The system could be used as a library's catalog or as a backup to an automated catalog.

5. Online Access — Contract with Commercial Vendor. The division could contract with a commercial vendor to mount WISCAT on a large mainframe computer which could be accessed by libraries through the use of remote terminals or microcomputers connected to leased lines or dial-up lines.

Cost Effectiveness. Overall costs would most likely be greater than for either microfiche or CD-ROM.

Use of telecommunications technology would be required. Access to telecommunications lines for dedicated use or data-grade dial-up is not consistently available in all geographic locations. Users limited to dial-up accessing would not be able to use the system as extensively or with as much flexibility. Telecommunications costs would vary, depending on the location of each library. The vendor would most likely be located out-of-state since no known commercial vendors offer this product within Wisconsin.

Hardware costs would be greater. Some vendors may require use of dedicated terminals rather than adapting use of standard microcomputer hardware. Depending on the hardware selected and acquired, it may be possible to use it for more than one purpose. (This might not be true if dedicated terminals are required.) Ongoing costs might be too high to allow participation by smaller libraries. Costs are incurred each time the system is used.

Timeliness. The database could be kept up-to-date continuously.

Ease of Use. Methods of searching the database are likely to be more powerful than for either microfiche or CD-ROM use. This would vary, depending on the software used. Searching capabilities would be more flexible and more precise. Correction of errors in the database could be made more easily than for microfiche or CD-ROM.

The system could be used to create subject and other types of bibliographies if the software accommodates this production.

When the computer system is down, access is not possible. A back-up system would be necessary for continued access to information.

Library staff would have to be trained in the use of the new technology. Each work station would provide only one access point per user at a time. Use by two or more would require multiple work stations or use of more sophisticated networking software and hardware.

5. Online access — Purchase or Utilize a State Computer. The division could purchase a computer large enough to maintain the statewide database online or contract with another state level organization to maintain the statewide database online.

Cost Effectiveness. This option would involve costs for purchase of hardware and software in addition to the telecommunication and online use costs, which are similar to those involved in Alternative 4. Staff would have to be hired to operate the hardware and maintain the software.

Timeliness and Ease of Use. These are the same as for the Online Access—Contract with Commercial Ventor alternative.

6. Online Access — OCLC. This alternative would involve adding holdings in the statewide database into the OCLC database. All access would be provided through OCLC.

Cost Effectiveness. If OCLC were used exclusively, there would be no need to maintain a separate statewide database. However, it may be financially impractical for most smaller libraries to participate in OCLC.

Timeliness. This is the same as for the last two alternatives.

Ease of Use. Most large public and academic library staffs are already trained to use OCLC. OCLC currently does not provide subject searching for all records in the database. Use of OCLC requires substantial training, however, and nearly 350 new libraries and 1,200 media centers would have to be trained.

7. Combination of Two or More Alternatives.

If none of the alternatives meets the ideal of cost effectiveness, timeliness, and ease of use, a combination of alternatives may be necessary. For instance, an offline product such as microfiche or CD-ROM could be used in combination with an online product. Those libraries with a greater need for timeliness and the advantages of online access might have to pay more for these services. The cheaper forms of the catalog could then be made available to those libraries which cannot afford online access.

Recommendations

1. The division should continue to produce microfiche copies of the database for the immediate future.

2. The division should experiment with producing the database on CD-ROM. If this experiment is feasible, cost effective, and useful to libraries, the division should eventually phase out production of microfiche and replace it with CD-ROM.

3. The division should also explore the cost effectiveness of producing supplements to the database in both microfiche and CD-ROM formats.

4. The division should continue to explore the feasibility of online and other technologies.

Issue 6

Format of the WISCAT Database Output

Question: In what format(s) should WISCAT records be provided to libraries for use in local or area automated systems?

Background

One of the major purposes in developing the WISCAT project is to allow libraries to receive MARC records for titles they converted and entered into the WISCAT database. The MARC records can then be used in an automated circulation system, online catalog, or for other automated purposes.

The MARC format was developed by the Library of Congress and a select group of other libraries in the late 1960s. It has become a recognized national and international standard for storing bibliographic data in a computerized format.

MARC records have a wealth of data which can provide patrons and staff with a wide variety of options when searching online catalogs. Adherence to the MARC standard also helps insure compatibility among automated systems at the local, area, and state levels. It can enhance sharing of both bibliographic records and physical items among libraries of all types.

All the records in the WISCAT database are in the MARC format. Because the standard for holdings statement has only recently been released, the holdings in WISCAT are in a vendor-defined field in each MARC record.

The Problem

When a library's MARC records are extracted from the database, they are supplied on standard 9-track magnetic tape. The records can be physically placed on the tape using a number of different options. Tape density, blocking factors, and character sets can all be different. While the Library of Congress has specified tape output standards, most vendors do not strictly follow those specifications.

While MARC record format is a national standard, many vendors' systems use a modified version of that format. These modifications include locally developed holdings statements and other locally defined fields not specifically included or defined in the Library of Congress MARC format.

In the past, many vendors have not informed the local library or division staff of their specific system's requirements for MARC tapes or MARC records at the time an extraction was done. Brodart, the WISCAT vendor, can extract records and produce MARC tapes in a wide variety of options depending on the vendor's specifications. Brodart may also be able to modify the MARC record to comply with the vendor's specifications. However, it is necessary for the vendor and the library implementing the automated system to specify to Brodart the tape option they require and any modifications needed to the MARC records. If the library requires a tape or MARC record format not already offered by Brodart, special programming will be required. There may be an additional cost for this programming.

Many vendors of automated systems using microcomputers do not use the MARC format. The data must be translated from the MARC format into a format defined by the vendor. With most vendors, the data must also be transferred from standard magnetic tape to floppy disks. There are currently no standards for this. Another layer of complexity is added when the data must be transferred from IBM floppy disks to Apple floppy disks. When using MARC records extracted from WISCAT in microcomputer-based systems close cooperation is needed between all parties including the system vendor, the library, Brodart, and division staff.

Recommendations

1. Libraries should be strongly encouraged to select automated systems that accept local records based on the MARC format.

2. Division staff should continue to work with libraries and vendors to use MARC records in automated systems including microcomputer-based systems.

3. Libraries should notify division staff concerning the type of tape format their system requires and if their vendor requires any specific modifications to the MARC records.

4. Libraries, not division staff, are responsible for specifications and programs to allow use of the MARC records in automated systems that use non-MARC records or modified MARC records, including paying the cost of the customized format.

5. Division staff should prepare a paper outlining the options and costs that libraries currently have for receiving MARC records and products from the database.

Issue 7

Funding the WISCAT Database

Question: What agency (or agencies) should be responsible for funding:

- *Current cataloging of library records in machine-readable form?*
- *Retrospective conversion of library records to machine-readable form?*
- *Maintenance of the database?*
- *Access to the statewide database (offline products or online database)?*
- *Equipment purchase and maintenance?*
- *Local products created from the database?*

Background

Once bibliographic information is converted to machine-readable form, it has the potential to be used in a variety of ways. The information can be combined to form a single database, merged with other databases, and used to produce a variety of state and local products. Access to the information can be provided in Computer Output Microform, CD-ROM, or online.

Costs for database projects will vary depending on the variety of methods used to produce bibliographic records, the means of storing the information in the database, the type of products created from the database, and the form of access provided to the database.

Any database project will have some general cost categories in common. Detailed cost analyses were prepared for the COLAND automation committee for four different scenarios, and the general methodology is described in the Appendix.

The general categories used in the cost analyses are listed below.

1. One-time equipment startup costs
2. Annual equipment maintenance costs
3. Production of records (library level)
   Current cataloging
   Retrospective conversion
4. Database maintenance
5. Access to the database including online access or offline products produced from the whole database.
6. Administration of a statewide project
7. Software development/maintenance
8. Training/consultation for/with library staff
9. Local or area products produced from subsets of the database
10. Research and development

There are many variations on the ways costs could be divided between the division, library systems, and local libraries. Some costs are easier to identify and attribute to specific library users than others. In general, there are three basic funding patterns for a statewide project. The advantages and disadvantages of each these are listed below.

Option A: Division for Library Services Payment of All Costs. To outline the advantages and disadvantages of the division's fully funding the costs associated with all of the specific project cost categories listed earlier would be too complicated for this discussion. Therefore, these categories will be compressed into six major groups: cataloging, retrospective conversion, database development and maintenance, access to a statewide resource sharing tool, equipment and equipment maintenance, and local projects.

1. Current Cataloging

   Current cataloging is the process of creating machine-readable records for new acquisitions. In most cases the library uses this means to create the first cataloging record of the item. Libraries use a variety of methods to create original cataloging records, including manual methods. Some libraries contract with vendors or utilities to created machine-readable records and catalog cards. Cataloging involves labor costs and may also involve vendor transaction costs. The advantages of this option include the following.

   a. All libraries would be able to obtain high quality cataloging.

   b. All libraries would be able to obtain standard machine-readable bibliographic records.

   c. The division would be able more effectively to encourage participation in the statewide database project in order to improve resource sharing.

   d. The division would be better able to encourage use of standards for the creation of machine-readable bibliographic records.

   Disadvantages of this option include the following.

   a. Labor and other costs for cataloging are an integral part of a library's budget. Payment for cataloging would be a direct subsidy to each library and would replace local funds.

   b. Choice of cataloging methods, vendors, and utilities is normally viewed as a local choice, and all library needs are not the same.

   c. There would be no way to ensure equal productivity among libraries on an ongoing basis, and payment could discourage libraries from using the most cost-effective method of cataloging.

   d. There is no efficient way to distribute funds to libraries for this purpose.

   e. The costs to the division would be very high and require a large outlay of state funds.

2. Retrospective Conversion

   This is the process of converting the information from previously cataloged items into machine-readable records. In most cases, the original cataloging did not utilize any computer equipment. However, if machine-readable records were previously created that did not use the MARC standard or are so incomplete that the data is useless, conversion to MARC-standard records would also qualify as retrospective conversion.

   The advantages of the division paying for retrospective conversion cost include the following.

   a. All libraries would be able to obtain machine-readable bibliographic records.

b. The division would be able more effectively to encourage participation in the statewide database project in order to improve resource sharing.

c. The division would be better able to encourage standards for the creation of machine-readable bibliographic records.

d. Retrospective conversion costs are normally a one time cost for most libraries if done according to standards.

The disadvantages of the division paying for retrospective conversion costs include the following.

a. The costs to the division would be very high and require a large outlay of state funds.

b. It will take many years for all libraries to finish conversion.

3. Database Development and Maintenance

This would include the general statewide database project costs including the cost of producing a master microfiche or CD-ROM project along with research and development activities. It would not include the cost of copies of the statewide project or the creation of projects from subsets of the database which have a purely local impact and benefit.

The advantages of this option include the following.

a. Area level and statewide resource sharing is improved if libraries use the database.

b. All libraries are treated equally.

c. Cost is not a barrier to participation.

d. All libraries are encouraged to enter their records and holdings, since there is no additional cost to them beyond the cost of local cataloging.

e. All libraries have access to a method for the creation of standard machine-readable records.

f. There is no need to gain consensus on a charge-back system.

g. It is difficult to develop a charge-back system which will ensure the ability of all or most libraries to participate.

h. Charge-backs could discourage use of the database.

The disadvantages of this option include the following.

a. If all libraries participate, there may not be sufficient funding from existing sources to cover the costs.

b. The cost increases as the number of participating libraries increases.

4. Access to a Statewide Resource Sharing Tool

   This would involve payment of the cost of microfiche and/or CD-ROM copies of the database for individual libraries or the cost of online access (telecommunications, access charges, transaction costs, etc.).

   Advantages of division payment of access to a statewide resource sharing tool include the following.

   a. Area-level and statewide resource sharing is improved if libraries use the database.

   b. All libraries are treated equally.

   c. Cost is not a barrier to participation.

   Disadvantages of division payment of access to a statewide resource sharing tool include the following.

   a. The cost of the project increases dramatically as more libraries participate.

   b. LSCA funds are now used for this purpose, and the increasing costs make it difficult to use these funds for other purposes to meet the requirements of LSCA.

5. Equipment and Equipment Maintenance

   The advantages of this option include the following.

   a. All libraries would be able to participate equally.

   b. Bulk purchasing would allow for lower prices for initial equipment purchase.

   The disadvantages of this option include the following.

   a. Statewide costs could be very high depending on the equipment needed.

   b. Large libraries would need multiple terminals and, therefore, receive greater support than small libraries.

   c. Equipment replacement costs could be unpredictable and difficult to budget for.

6. Local Products

   Once the statewide database has been created and is maintained, it is possible for local libraries or groups of libraries to produce products which have largely local or area impact. Examples include local library microfiche or film catalogs, system or area catalogs, and tapes for use in local or area automated circulation systems and online catalogs.

   Advantages of division payment of local product costs include the following.

   a. Libraries may be able to create products for their users for which local funds are unavailable.

Disadvantages of division payment of local product costs include the following.

a. Local library needs vary greatly. Some libraries would benefit greatly from this option while others would not.

b. It would be difficult to allocate funds equitably for this purpose.

c. It would be very expensive to pay for all products created to meet local needs with state funds.

d. Payment for local products would be a subsidy of ongoing local costs and would replace current local costs.

e. There is no mechanism to distribute funds for this purpose.

Option B: Division for Library Services Partial Payment of Database Costs Combined with Charge-backs to the Libraries. The division could pay for any portion of the database project depending on available funding. Likewise chargebacks could also cover any or all portions, and there are numerous chargeback methods which could used. Therefore, any scenario eventually selected would be based on judgments of equity and what libraries can afford.

Because costs for the current project are shared with local libraries or public library systems, this section includes a brief description of the ways in which the costs are currently shared and, in some cases, includes examples of other possible ways to share costs.

1. Current Cataloging

Current cataloging costs are now paid for by libraries from local funds. All libraries pay the cost of labor for cataloging. OCLC libraries also pay transaction fees for the use of the OCLC system. There are no comparable transaction fees directly related to the use of MITINET in the library for creating machine-readable records. MITINET is not used for current cataloging because there is no way, at least now, to provide catalog cards or machine-readable records to libraries in a timely fashion. Some libraries received start-up costs for use of OCLC from federal funds.

Possible methods of the division sharing or contributing to these costs (should this be considered appropriate) are listed below.

- Allocate funds for start up costs for automated cataloging methods.
- Allocate funds for research and demonstration projects.
- Pay a per transaction fee for each catalog record or holding which is contributed to the statewide database.

2. Retrospective Conversion

The majority of costs for retrospective conversion have been paid for by local funds. The division currently uses LSCA funds to support a competitive grant program to subsidize retrospective conversion for both OCLC and MITINET libraries. The grant program defines which costs are eligible for grant funds and provides a maximum amount per title. This process has been refined over several years and has proved effective in encouraging libraries to participate in the statewide database project. Each year, there have been more applications than available funds.

MITINET users currently receive software, microfiche, training, and support at no cost. Beginning in 1988, MITINET libraries will begin to pay a portion of the total cost of the microfiche and will eventually have to pay the whole cost.

Possible methods for the division to share or contribute to these costs (should this be considered appropriate) are listed below.

- Continue grant program.
- Pay a per-transaction fee for each catalog record or holding which is contributed to the statewide database.

3. Database Development and Maintenance

Costs which the division currently funds are listed below. These costs are integral to the development and maintenance of the database as a whole. It is difficult to attribute specific costs to the participation of any one library. However, numerous types of chargeback methods could be developed.

Maintenance
- Input (database processing of existing tapes or records)
  - Update existing records
    - MITINET/retro transactions
    - OCLC
    - Other MARC tapes with library holdings
    - Non-MARC Tapes with library holdings
    - GPO code transactions
  - Adding unique records
    - MITINET/marc records
    - OCLC records
    - Other MARC tapes with library holdings
    - Non-MARC Tapes with library holdings
    - GPO tapes
  - Deleting errors
    - Bibliographic records
    - Holdings
      - Introduced by data processing problems
      - Introduced by personnel
  - Deleting duplicate records
    - LCCN Consolidation
    - Duplicates not eliminated by LCCN consolidation
- Production of microfiche (WISCAT) master
- Production of MARC tapes of the whole database
  - Interfaces with other systems and products if the interface would be useful to several libraries
  - Research and development if the product of the development would be useful to several libraries
- Administration of the project
  - Salaries
  - Supplies
  - Travel
  - Other
- Software development
  - MITINET/retro
  - MITINET/marc
- Training of libraries
  - Salaries
  - Supplies
  - Travel

Equipment
Other
Consultation with libraries
Use of products
Product development
Interfacing
Statistics

4. Access to a Statewide Resource sharing Tool

To date, the cost of microfiche copies of the database has been paid for from LSCA funds for all libraries. Beginning in 1988, MITINET and other libraries will have to pay a portion of the cost of microfiche copies and eventually will have to pay the total cost of the copies. OCLC libraries will receive a copy free in recognition of the number of records which they have contributed to the database.

One possible method for the division to share or contribute to these costs (should this be considered appropriate) would be for the division to subsidize or pay the cost of the copies or the costs of accessing a database.

5. Equipment and Equipment Maintenance

In the past, the division has paid the costs of start-up for some libraries, including costs of equipment. This has never been done uniformly for all participating libraries. Equipment was purchased for most public library systems, resource libraries using OCLC, and for a number of other libraries. Microfiche and microcomputer equipment have been purchased for some libraries taking part in the WISCAT project. Maintenance costs have generally been paid for by the participating libraries. It would be possible for the division to pay for specified equipment or to subsidize equipment purchase.

6. Local Products

To date, the division has funded demonstration projects for local product purchase through use of LSCA funds. The costs of ongoing product purchase and development have been paid for from local or system funds. Some libraries have paid the total costs of local projects. Some demonstration projects have not been continued when grant funds were no longer available.

Possible methods for the division to share or contribute to these costs (should this be considered appropriate) are listed below.

- Continue grant program to pay for start up of local products.
- Public library systems could use state aids to supplement the cost of system or local products.

Option C: Local Libraries or Systems Payment of All Costs

1. Current Cataloging

All costs would be paid for by the local library, including labor and transaction fees.

2. Retrospective Conversion

All costs would be paid for by the local library. Fees would be charged to libraries using the statewide database as a means of creating machine-readable records.

3. Database Development and Maintenance

   All costs of development and maintenance would be paid for by the libraries which take part in the project. For example, the total cost of the current statewide database project on microfiche is approximately $468,400. The cost per library would be $1,338 (based on 350 libraries).

   Other types of charge-back methods would need to be determined for other formats.

4. Access to a Statewide Resource Sharing Tool

5. Equipment and Equipment Maintenance

6. Local products

   All costs for development, maintenance and production of products which have a predominately local impact would be paid for locally.

Recommendations

1. Current cataloging costs should be paid for primarily by the local library. The division should fund demonstrations of new technologies and encourage means of providing cooperative cataloging projects. Public library systems and school districts should investigate the feasibility of providing or subsidizing cataloging services for member libraries when this is cost-effective and useful to the member libraries.

2. Retrospective conversion costs should be paid for primarily by the local library. The division should subsidize the costs through a competitive grant program funded through use of LSCA or state funds. Systems should also consider subsidizing retrospective conversion costs.

3. The division should pay for database development and maintenance, including all administrative, research and development, training, and consultation costs through use of LSCA and state funds. The division should continue to seek state funds to cover all ongoing costs. The division should also pay for the development of database masters for statewide offline products.

4. Local libraries should pay for the cost of purchasing the database product for offline products (microfiche or CD-ROM). Public library systems should consider subsidizing the cost of purchasing or accessing the product for their member libraries.

5. The cost of equipment and equipment maintenance should be paid for from local funds. The division should explore incentive grants for sharing the costs of initial purchase of equipment to ensure wide distribution of the CD-ROM version of WISCAT to even the smallest libraries.

6. Local libraries should be primarily responsible for purchase of local products developed from the statewide product. The state has already subsidized this cost to some extent by supporting a statewide product and by negotiating favorable prices. Local product costs could include purchase of local databases on microfiche, CD-ROM, or tape or customized products for a group of libraries. If public library systems sponsor systemwide projects, then the system should consider paying for all or a portion of the costs.

Issue 8

Automating Interlibrary Loan

Question: What is the most practical and effective means of utilizing automation to obtain information from statewide resource sharing tools, to send and receive interlibrary loan requests to all types and sizes of libraries, and to track and manage the interlibrary loan process in Wisconsin?

Background

In March 1983,the state superintendent of public instruction appointed an Interlibrary Loan Telecommunications Committee "to study and make recommendations on the best use by Wisconsin libraries of telecommunications equipment for transmission of interlibrary loan and reference requests." The committee developed both short-term and long-term recommendations for interlibrary loan telecommunications in Wisconsin.

To fulfill the short-term recommendations of the committee, a microcomputer-based bulletin board system (BBS) was configured and made available to public library systems headquarters, Wisconsin Interlibrary Service (WILS) members, and other libraries referring requests to state level resource libraries. As of April 1, 1987, BBS has been implemented in the following ways.

1. The Reference and Loan Library, WILS, and the Milwaukee Public Library transmit interlibrary loan requests to each other via the BBS.

2. Seventeen public library systems and WILS members send requests to state level resource providers using BBS.

3. In the Fox River Valley area, BBS has replaced the local teletype network for transmission of requests among six public library system clearinghouses.

4. MINITEX sends requests to WILS and the Reference and Loan Library via BBS.

5. One institution library and one state agency library send requests to the Reference and Loan Library via BBS.

6. Nicolet Federated, Southwest Wisconsin, Wisconsin Valley, Winnefox, and Lakeshores library systems are operating BBS within their system areas. Another system is also actively exploring BBS operation within its area.

While BBS allows greater ease in typing requests, more flexibility in sending and receiving times, and faster transmission rates, it is basically a replacement, in transmission method, for the old teletype network.

The work accomplished to date has not met all of the short-term recommendations of the telecommunications committee. One of the recommendations which has not been met is the uniform formatting of requests. The telecommunications committee recommended that MITINET/marc be adapted for this purpose. A number of institutions including WILS and MINITEX have experimented with development of formatting programs, but these are either not production programs or do not meet the requirements suggested by the telecommunications committee. The software used to format requests

should be planned in conjunction with the long-term development plans recommended by the committee.

Long-term functions recommended by the telecommunications committee which have not yet been addressed include development of a database of active interlibrary loan requests, and management of request traffic and statistical records. Use of this type of database would allow staff to check the status of records and eliminate the need to retype requests each time a request is referred.

In addition to BBS, interlibrary loan transmission methods used in Wisconsin include mail, telephone, OCLC, telefacsimile, van delivery, electronic mail, microcomputers and automated circulation systems. Ensuring compatibility of telecommunications equipment among libraries of all types around the state is important because it is not economically feasible for state level clearinghouses and resource libraries to purchase and operate equipment and train staff to interface with the wide variety of transmission technologies currently available. Linking diverse systems using different hardware and software is also difficult and potentially expensive.

Currently, the majority of libraries use WISCAT microfiche to locate information on which libraries own the titles. Larger public and academic libraries also use OCLC to obtain this information. In the future, it may be possible to interface a CD-ROM version of WISCAT with BBS.

The Problem

1. Uniform Formatting

   Although all agree on the basic elements of an interloan request, no automatic formatting program has been incorporated into current interloan technology. Typists preparing interloan requests for transmission on telecommunications equipment are given a model to follow, but each sending library may add its own variations to the format, either omitting or adding separate elements. Training typists who are unfamiliar with standard bibliographic formats can be extremely time-consuming and difficult.

   Uniform formatting which would provide for tagging of specific fields is essential to the creation of a database as described below, and development of this format needs to be done in conjunction with development of database software.

2. Online Access to Resource Sharing Tools

   Bibliographic and location information currently must be obtained from various resource-sharing tools and retyped in a user-entered format on interloan requests. Access to computerized bibliographic and location information online or through use of CD-ROM could allow for the automatic reformatting of this information for use in the interlibrary loan process. This would assure accurate and consistent transmission of interloan information. An online system could also provide multiple access points for retrieval of bibliographic and holdings information.

3. Recordkeeping/Database Management

   All libraries referring interlibrary loan requests currently keep extensive paper records and logs to track the status of each referral. Every time a request is referred, it must be completely retyped with a new, unique interlibrary loan transaction number assigned for each referred location. Replies from each referral source are also individually recorded in the logs. As an ever-

increasing number of loaning libraries are identified as resource sharing tools, the amount of paperwork necessary to track interlibrary transactions also increases.

Paper records may be filed at different libraries in a variety of ways: patron's name, author's name, title, transaction number, date of request, or due date. It may be extremely difficult to check on the status of a request at a referral source if both the referring and loaning library have not manually filed the request in the same way.

A database management system would allow for the tagging of various elements of each request so that the request could be stored and retrieved at requesting and loan sources by various data elements. Database retrieval capabilities would also eliminate the necessity for retyping and assigning new transaction numbers with each referral. The ideal system would allow a clearinghouse to call up each request, correct bibliographic information and add referral notes, then send the request to the appropriate referral source.

A database management system with online editing and storage capabilities would allow the tracking of referrals and replies on the request so that each referral source, as well as the requesting library, could see the referral history with replies.

At present, no system which could accomplish all of these tasks with storage capacity large enough to meet the needs of state-level clearinghouses has been identified as available for purchase, though several may be under development.

4. Standardized Statistics

There is currently no standardized statewide method for gathering statistics about interlibrary loan. The division annual report form requires libraries to gather and report statistics on interloan activities, but a variety of manual methods are used to gather, tabulate, and record these statistics. The telecommunications committee identified the capability to compile statistical information as a requirement in the selection of a statewide system. Incorporation of statistics into a database management system would assure consistency in statistics gathering and reporting.

5. System Level Needs

The need to manage interlibrary loan traffic is now most intense at state-level clearinghouse and resource libraries. This is due to the amount of interlibrary loan traffic, the labor-intensive nature of the tasks involved, and the fact that libraries sending requests are able to send them using a telecommunications system. However, systems can adapt the Bulletin Board System (BBS) for system use as smaller libraries obtain the microcomputer equipment necessary to send interlibrary loan requests. Four systems have currently set up a BBS at the system clearinghouse and receive requests from area libraries. As this technology develops at the system level, systems will also need the capability of managing interlibrary loan traffic and keeping statistical records.

Recommendations

1. There needs to be continued support to encourage systems to implement BBS for use by system member libraries and other area libraries.

2. The division staff should review the long-term recommendations of the telecommunications committee, compare these recommendations with current needs, and if necessary revise the draft

functional specifications of the software development subcommittee. The specifications developed should be used as a guide in evaluating other options.

3. The division should conduct a cost study to determine which of the following options should be funded:

   a. Purchase or use an interlibrary loan system which has already been developed.

   b. Develop technical specifications and software in-house.

   c. Contract with a software development firm through a bid process to develop technical specifications and software.

4. The division, in consultation with representatives of all types of libraries, should seek funding to install the software purchased or developed in state level interlibrary loan clearinghouses and resource libraries, and,when it is fully tested, in-system level interlibrary loan clearinghouses.

Issue 9

Automating Small Libraries

Question: What should the role of the division be in helping small public and school libraries automate?

For purposes of this issue paper, small school libraries are generally defined as those school libraries located in districts with fewer than 2,000 students which do not have a full-time district-level library media director. Approximately 80 percent or 345 of Wisconsin's 432 school districts have fewer than 2,000 students. Small public libraries are generally defined as those serving communities of fewer than 10,000 persons, currently 297 out of 356 public libraries or 83 percent.

Background

Small public and school libraries vary greatly within enrollment or community populations. Within the school districts with fewer than 2,000 students, library media center collections will vary quantitatively as well as qualitatively. In the public library area, library collections for communities serving fewer than 10,000 people range from a high of 80,000 to a low of less than 1,000. Thus, while generalizations are being made in this paper for the purpose of discussion, there are, in reality, many variations within the "small" category.

Small libraries have needs similar to larger libraries. Some of these needs can be met through automation. This includes cataloging of materials and access to materials outside the collection. While OCLC meets most of these needs for its member libraries, the OCLC cost structure makes it unlikely that small libraries will be able to realize the benefits afforded member libraries. Small libraries are greatly dependent on other sources, such as WISCAT, which provide access to additional collections.

All libraries seeking to automate need long-range planning which includes participation in planning with other libraries in the area. Small school and public libraries are currently involved in a variety of automation activities ranging from word processing to online circulation systems which, in many cases, will evolve into online catalogs. A number of small school and public libraries are participating in automation projects through the public library system in their area. Most typically, these involve retrospective conversion of records with future plans for area union catalogs, area circulation systems, and future online catalogs.

A major concern for small libraries is equitable access to information, no matter where they happen to be in the state. Several small school and public libraries have used MITINET to create a union catalog of holdings for their area. DOORCAT, a union catalog for Door County libraries, is an example. This is used as a location tool to facilitate resource sharing among the participating libraries.

Division commitment to small library automation shows itself in the following ways.

1. **Consultation. Staff members in two bureaus spend a small percentage of time in consulting with small libraries on automation-related areas.**

a. The automation consultant in the Bureau for Library Development (BLD) works directly with public library systems. The systems provide automation leadership for public libraries in the system area, including small public libraries .

b. The microcomputers and instructional technology consultant in the Bureau for Instructional Media and Technology (BIMT) advises school libraries in automation planning . Approximately 10 percent of the consultant's time is devoted at the area level to small school library consultations in automation.

c. The BIMT library media consultant who specializes in general school library organization spends approximately 5 percent of work time on automation.

2. WISCAT Project

a. The manager of WISCAT coordinates the project and trains library staff in use of MITINET software. In addition, approximately 10 percent of the manager's time is spent on small library automation projects.

b. The WISCAT microfiche catalog of over 3 million titles is useful to small libraries for interlibrary loan, selection, and cataloging purposes.

c. MITINET, a microcomputer program for use in converting cataloging records to machine-readable form, has enabled small libraries to move toward automation in a timely, cost-effective manner. Small libraries and IMCs are the major users of this software.

3. Planning and Demonstration Projects.

a. The DPI Microcomputer Center/Library is designed, in part, as a demonstration site for automation in small public and school libraries.

b. LSCA grants have provided seed money to small libraries in the area of automation, particularly as it relates to retrospective conversion, a first step in automation implementation. Between 1983-86, approximately $680,000 was awarded by LSCA for retrospective conversion projects using MITINET.

c. The Interlibrary Loan Telecommunications Committee considered the needs of libraries of all types and sizes and recommended the use of microcomputer equipment for interlibrary loan message transmission. This equipment is compatible with that used in WISCAT.

The Problem

1. Problems relating to automation of small public and school libraries are many.

a. Small libraries can generally be expected to have limited funds for all library operations. Local funds may be insufficient to support the automation efforts needed, even when major decisions (such as limiting material purchases to free up funds for automation) have been made.

b. Staff in small public libraries are often part-time, have minimal training in the field of librarianship (including automation), and are less likely to make recommendations on automation

from a comprehensive viewpoint. Staff members are not always familiar with MARC standards and AACR II cataloging rules.

c. Professional staff of small school libraries may also be part-time, either because they have more than one school library to direct or because they have other teaching responsibilities/ assignments. Emphasis tends to be placed on public service and reference activities.

d. Staff in small libraries tend to be isolated from other librarians who could provide information and nurture an interest in automation. Single-person operations also make it difficult to attend conferences and workshops.

e. Automation efforts in small libraries tend to be piecemeal. Limited automation packages are more likely to be looked at as a short-term panacea without a full realization of long-term impact/liability. Appropriate alternatives are less likely to be known or considered.

f. Expenses for automation of small libraries may be greater proportionately than those of large libraries.

g. Telecommunications costs, such as telephone lines for online computer efforts, are greater for outlying, rural areas.

2. Small libraries have automation needs similar to those of large libraries. Problems relating to the provision of leadership/assistance to small libraries from the division include the following.

   a. Role definition for provision of assistance at the state, area, and local levels has not been agreed upon.

   b. The sheer number of small libraries makes it impossible for division staff to personally work with all small libraries, yet staffs of small libraries are more likely to need assistance in planning and implementing automation efforts.

   c. A proliferation of various automation systems makes it difficult for consultants to develop expertise in them all.

   d. LSCA funds cannot provide funding for all retrospective conversion/automation efforts of small libraries.

   e. There are no state monies currently available for automation projects in small libraries.

Recommendations

1. The division should request state funding for a full-time position to continue automation consultant services through the BLD to assure sound planning for automation and cost effectiveness. Services provided by the automation consultant include:

   a. Provision of instruction in the planning process, including the development of local functional specifications and Requests for Proposal, coordinated with the area library system or CESA.

   b. Provision of planning documents from small public libraries and IMCs of similar size and with similar automation requirements.

c. Coordination of area automation planning efforts, such as public library system directions in automation, as required by state statute.

d. Assistance in developing demonstration sites for automation in small public and school libraries.

e. Encouragement of automation projects which illustrate effective ways to link local and area automation efforts.

f. Assistance in the selection and purchase of automation products which most closely meet local requirements of function, cost effectiveness, cost benefit, and compatibility with state and area automation efforts.

2. The division should encourage continuing education programs focusing on planning for and implementation of automation by:

a. Providing grants for participation in continuing education.

b. Providing an automated continuing education clearinghouse for identification of appropriate programs.

c. Continuing to sponsor continuing education programs on automation.

d. Communicating with library staffs in the field regarding software and hardware expertise available at the state level.

e. Providing training for system and other area level staff who are responsible for automation.

3. The division should expand consultant services in planning and implementing library automation from the Bureau for Instructional Media and Technology through state funding.

4. The division should continue, through state funding:

a. The DPI Microcomputer Center/Library, and it should be better publicized as a demonstration site for technology utilization, with special emphasis on small libraries of all types.

b. Maintenance of WISCAT and its production in a format which will encourage maximum use by small libraries.

c. Support and maintenance of MITINET/retro and MITINET/marc software for retrospective conversion of cataloging data.

d. Development of a collection of library automation software at the Bureau for Interlibrary Loan and Resource Sharing.

e. Encouragement of conversion of cataloging data to machine readable form (MARC) for small libraries through a special grant program.

5. The division should continue to use LSCA grants for seed money for automation efforts and conversion of cataloging data to the MARC format.

6. The division should encourage public library systems to facilitate the participation of small libraries of all types in systemwide automation efforts.

7. **The division should monitor the implementation of state statutes for public library systems which focus on area automation planning requirements. These include:**

Sec. 43.24 State Aid. (2) For a public library system to qualify for and maintain its eligibility for state aid under this section, it shall provide . . .

> **(i) Cooperation with other types of libraries in the system area as evidenced by agreements with those libraries for appropriate sharing of library resources to benefit the clientele of all libraries . . .**
>
> **(l) Continuous planning with the division and with participating public libraries, counties, and other types of libraries in the area in regard to furthering cooperative activities among all types of libraries in the system areas as evidenced by a written plan.**
>
> **(m) Continuous planning with the Division and with participating public libraries and counties in the area in regard to the library automation and technical services as evidenced by a written plan . . .**

Issue 10

Online Database Searching

Question: What should the role of the division be in funding and providing access to online database services?

Background

The amount of information available through online access to both bibliographic and full-text databases has increased severalfold during the past ten years. Approximately 300 databases are available through the major database vendors. Not only has the amount of information increased, but the nature of that information is changing. More full text information is available, and online databases are now being produced which are not duplicated in print form.

The division has been providing database search services through BIMT and the Bureau for Interlibrary Loan and Resource Sharing.

BIMT: The Wisconsin Dissemination Program. In 1978, a grant from the National Institute of Education (NIE) was awarded to DPI to increase the ability of the state education agency to disseminate education research information to local school districts. The Wisconsin Dissemination Project (WDP), which was established with this grant, began to provide database searching for Wisconsin school districts and DPI staff. It established regional search centers at several cooperative educational service agencies (CESAs). As part of this project, training was provided to searchers at the regional sites. Workshops were held for local and regional educational staff to increase understanding of database searching and to encourage use of interlibrary loan protocols for document delivery. Efforts were made to establish regular use of library resources, database searching, and interlibrary loan by Wisconsin K-12 educators for informed decision making.

As the five-year grant progressed, federal funds declined, and the project was institutionalized at the state level. At the end of the grant period in 1983, WDP continued at the state level as part of the division. WDP staff and services have been integrated into the DPI's Microcomputer Center/Library (MCL). At the regional level, there are five CESAs where online database searching is provided. Two other CESAs facilitate use of WDP services by serving as brokers for the service in their areas. The school districts in the remaining five CESA areas are served directly by WDP staff in Madison. All school districts, whether served through a CESA or by DPI staff, pay cost-recovery fees for the search service. The state agency underwrites the program by paying the personnel costs for two positions in MCL. These staff members provide direct database search services, training for CESA searchers, and general support for the ongoing program.

Bureau for Interlibrary Loan and Resource Sharing. In July 1983, the Bureau for Interlibrary Loan and Resource Sharing began brokering database search services with BRS and DIALOG on behalf of Wisconsin libraries. Public, academic, school, CESA, and special libraries use this service. By negotiating a group contract with these vendors, the division is able to offer Wisconsin libraries a discount of $11 per hour for DIALOG online search charges and discounted rates for BRS searching. During fiscal year 1983-84, 29 libraries participated in this contract. By July 1986, 85 libraries were taking part in the group contract. No charge is made to Wisconsin libraries for the administration of this service; all participating libraries pay for vendor charges incurred.

The Bureau for Interlibrary Loan and Resource Sharing also provides database searches as part of its ongoing reference service to library systems and state agency libraries. Database access is also used for citation verification and a variety of other reference-related information tasks. Generally, no charge is made to library systems or state agency libraries for this service. The level of searching is determined by the reference staff and limits may be imposed at staff discretion.

Telecommunications Equipment. During fiscal year 85-86, the division undertook a project which, while primarily focused on interlibrary loan, has potential impact on database searching. As part of an LSCA grant, the division installed in each library system headquarters and in each resource library, removed from the system headquarters, equipment and software suitable for use of ALANET and the state Interlibrary Loan Bulletin Board. Library system staff have also been provided with training in the on-line use of this equipment and software. The equipment and software (Hayes 1200 baud modems and either ASCII EXPRESS or PC- Talk) is also very appropriate for on-line database searching.

Database Searching Throughout the State. On a national level, academic and special libraries have used online searching earlier and to a greater extent than public and school libraries. This seems to be true in Wisconsin as well. Of the 85 libraries using the brokering services of the Bureau for Interlibrary Loan and Resource Sharing, 43 are academic, 23 are special, 11 are public libraries or public library systems, 6 are school or CESA instructional materials centers, and 2 are from the division.

More school IMCs are using online searching as they begin to include database searching in the library skills curriculum. DIALOG reported an increase in school subscribers from 39 to over 300 during 1985. In Wisconsin, growth in school use of online databases is also occurring. At the 1986 spring Wisconsin Educational Media Association (WEMA) conference, a school on-line interest group was formed. During the 1986-87 school year, the DPI instructional technology consultant and the MCL director conducted workshops in all CESA areas on using database searching in the curriculum.

The Problem

The library community has tended to view online database searching as an add-on information source for which user fees could be identified and collected. However, online information cannot always be duplicated in print form, and online access to information results in more precise recall. A problem with the present structure of database search services as provided by the division is that services of WDP are partially cost recovery, and services of the Bureau for Interlibrary Loan and Resource Sharing are provided without cost. There is no coordinated policy at the state level regarding the use of database searching as part of library services of the division.

The cost structure of WDP erects a barrier to the dissemination of education research information by DPI to all school districts of the state on an equitable basis.

As the number of databases and vendors increases, it is difficult to develop and maintain good search skills in all subject areas and for all systems. This is especially true for libraries where only one staff person is responsible for searching databases in a wide variety of subject areas.

The impact of database searching at all levels (state, regional, and local) on interlibrary loan has not been anticipated. Related to this is the present lack of training for local library personnel in interpreting database printouts.

Recommendations

1. **The division should develop a statement of philosophy supporting free access to information in all formats, including on-line sources.**

2. **The division should encourage the integration of database search services with other library reference services at the state level.**

3. **The division should organize workshops and provide consultations and general support at the area level which will encourage public library systems, resource libraries, and CESAs to use database searching as an additional resource, integrated with other library services, rather than as an isolated tool, and should utilize experts from throughout the state to do so.**

4. **WDP should be continued with state support for staff, regional inservice, and general support of regional search sites. In addition, funds should be provided by DPI to provide a basic level of database searching for all K-12 school districts of the state. These searches should be for the purpose of dissemination of education research for the improvement of the educational program of the districts.**

5. **The Bureau for Interlibrary Loan and Resource Sharing and BIMT staff should continue to increase its searching expertise and to explore all new developments for database searching, including gateway software and CD-ROM databases.**

6. **The Bureau for Interlibrary Loan and Resource Sharing and BIMT staff should develop and diversify their areas of expertise so that library system and CESA staff can turn to them for help with difficult search strategies or databases.**

7. **The MCL should increase its visibility as a demonstration site for efficient and extensive use of electronic information services, such as online database searching, computer bulletin boards, electronic mail, CD-ROM, and other new information technologies.**

8. **The Bureau for Interlibrary Loan and Resource Sharing should continue to broker database search services for Wisconsin libraries. This service should receive more publicity and have greater visibility as a service provided by the bureau on behalf of Wisconsin libraries.**

Issue 11

System Role in Automation

Question: What should the role of the public library system be in planning and implementing automation at the area and local levels?

Background

A major thrust of public library systems is access to and the sharing of library resources among its member libraries. Library systems also have a responsibility to involve other types of libraries in resource-sharing so that the library and information needs of the population are met. Automation has great potential for improving access to and the sharing of library resources among all libraries, and is a matter of concern for public library systems.

Section 43.24 (2), Wis. Stats., prescribes those services which a public library system must provide in order to qualify for state aid. Many of those services have the potential for being impacted by library automation. These include:

(a) Interloan of library materials.

(b) Reference and referral services.

(d) The honoring of a systemwide borrower's card.

(e) Inservice training.

(f) Rapid and regular delivery and communication systems.

(h) Professional consultant services.

(i) Cooperation with other types of libraries.

(j) Continuous planning . . . in regard to developing the library materials collection.

(l) Continuous planning . . . in regard to furthering cooperative activities among all types of libraries.

(m) Continuous planning . . . in regard to the library automation and technical services.

All library systems are involved in library automation to some degree. However, the nature and level of that involvement varies significantly.

All public library systems either directly or through the system resource library have access to the OCLC bibliographic utility. In most cases, participation in OCLC was initiated by special LSCA grants from the division. Several systems have developed centralized processing centers which utilize OCLC for cataloging information and catalog card production. It is through participation in OCLC that the holdings of public library resource libraries and a number of other public libraries are added to the statewide database.

All public library system resource libraries have undergone substantial retrospective conversion efforts, and most of their holdings are now in WISCAT. More and more system member libraries are undergoing retrospective conversion using the MITINET software program. A number of public library systems have taken leadership in retrospective conversion efforts in their system area and have administered such projects.

A number of library systems have conducted or are conducting major studies of the automation needs of their member libraries using private library automation consultants. Other library systems have established special committees and/or have utilized system staff to look at the automation needs of the system area.

Many of the resource libraries for public library systems have implemented or are in the process of acquiring automated circulation systems. Other library systems are coordinating the purchase of automated circulation systems in behalf of their members.

A number of library systems either directly or through contracts with the resource library provide online database searching for their member libraries.

Some systems now provide consultation to member libraries on library automation.

All library systems as well as some system resource libraries are linked together using the ALANET electronic mail communication system. This came about as a result of a special LSCA grant.

All library systems either directly or through their resource library are now utilizing an electronic bulletin board system which links them with the Reference and Loan Library in Madison for interlibrary loan purposes. WILS and the Milwaukee Public Library also have similar bulletin board systems. In addition, some systems have developed internal electronic mail systems for interlibrary loan purposes.

The Problem

1. Existing public library systems are federated in nature which means the members of such systems maintain their autonomy. Members are free to determine the nature of the library automation which they will undertake without regard to statewide or areawide library automation development.

2. The size and geographic location of public library system members vary greatly. This is reflected in the automation needs of these libraries. It is difficult to design a systemwide plan for library automation which meets the needs of all member libraries. This is especially true for small and very small libraries, which may not be able to afford even minimal access to library automation.

3. The system resource library, normally the largest public library in the system, can and often does make a decision on which automated library system best meets its needs independent of any involvement by system members. This is done even though the system resource library plays a significant role in system services and is reimbursed for these services. The system must then adapt its plans to respond to the automated system of the resource library.

4. While it would be ideal for all types of libraries to cooperate in library automation efforts, there are not enough incentives for this to occur on a large scale.

5. Many library systems have not yet developed systemwide library automation plans. As a result, these systems are placed in the position of reacting to library automation developments in the system area.

6. As state and area databases develop and include more and more library collections, a wide array of problems relating to access and equity of use are created. These problems relate to access to different-size collections and to collections of different types of libraries.

7. Centralized technical services centers using OCLC as the source of cataloging information have proved to be costly and difficult to manage, and few library systems have chosen to go this route.

8. The cost of maintaining individual card catalogs by all system member libraries is significant.

9. The initial cost of library automation can be expensive, and it is often difficult to determine how this cost fits into other system responsibilities.

Recommendations

1. Library systems should provide leadership in the development of library automation in the system area for all types of libraries.

2. Library systems should develop plans for systemwide library automation compatible with the state superintendent's policy statement on library automation.

3. Library systems should provide technical assistance and inservice training for member libraries on library automation.

4. Library systems should provide incentives for its member to participate in systemwide automation efforts.

5. Library systems should work to ensure that the holdings of all members are included in a statewide union database and that each member library has access to the database. Library systems should coordinate and facilitate the retrospective conversion of the members' collections. The cost of this participation and access should be shared among the state, the system, and the local library.

6. Library systems should explore the development of automated public access union catalogs which can replace existing card catalogs.

7. Library systems should explore cost-effective methods for providing cataloging information and/or centralized technical services. The sources of cataloging information should be compatible with the statewide database.

8. Library systems should consider development of intersystem agreements for library automation. Such agreements might include sharing of an automation specialist.

Issue 12

Remote Access to Automated Library Systems

Question: Should the division encourage and/or support the establishment and maintenance of remote access mechanisms for use with automated library systems?

Background

For the purpose of this issue discussion, remote access is limited to telecommunication techniques which employ or simulate a remote computer terminal connected to a library computer system. Remote access may also include access to microcomputer-based bulletin board systems. Such remote access generally depends on the use of telephone equipment and frequently employs microcomputer telecommunications configurations at the remote access site.

Remote access capabilities exist for many automated library systems, either as a part of an established patron access feature, as a facility for telecommunications with branch libraries, or as part of a remote diagnostic service provided by a system vendor. Although direct patron access to automated library systems is not yet a universal feature, the hardware and software technology for remote access is extremely common as a result of the very widespread market for automated systems which permit use of a central computer by branch libraries. Many turnkey automated library systems provide facilities which allow a vendor to access the computer from a remote site in order to diagnose and solve system problems. The Janesville Public Library, for example, offers remote dial-up access to the C. L. Systems Inc. circulation system and online catalog to all libraries in the Arrowhead Library System. Remote access capabilities have become commonplace due to the varied requirements of local library public service objectives, geographic considerations, and vendor performance.

Remote access facilities currently exist at automated library systems in Wisconsin. In some instances, Wisconsin libraries permit other library and nonlibrary agencies to obtain remote access to the computer system. Some libraries permit their patrons to use the remote access facilities as well. Other remote access arrangements include joint access to a shared computer system.

In Wisconsin, remote access arrangements have been implemented and funded at the local level. The division has had no involvement in the implementation or funding of these facilities, nor has the division been involved in the development of remote access policies, procedures, training, or publicity efforts.

The Problem

1. Publicity and Training

   The success of remote access systems depends on the manner in which the capability is publicized throughout the library community. Since remote access facilities are currently provided as a courtesy to patrons and to other libraries in the immediate area, the burden of publicity and training most frequently falls on the library providing the service. The lack of coordinated and well-funded training and publicity efforts may result in underutilization of existing remote-

access services. Conversely, the potential impact of heavier utilization may place increased burdens upon the staff of the library which provides the service.

2. Cost of Equipment

Direct and indirect costs are associated with the provision of remote access facilities. Direct costs include modems, telephone installation and associated equipment (multiplexors, rotaries), telephone line charges, and cables. Although alternative technologies are not currently employed in Wisconsin, similar costs would also be associated with radio communications or with other telephone bypass techniques. Indirect central site costs include the cost of a terminal port which may be partially or fully dedicated to remote-access functions and the possible impact of remote users on computer system performance.

Remote sites also encounter direct and indirect costs. The terminal or terminal emulation equipment may not be used exclusively for communication with the library automation system in question. A portion of the equipment cost (terminal or micro, modem, cables, telephone) may be allocated specifically to the remote access function. Indirect costs include the loss of opportunity to use remote site equipment for other purposes while the equipment is being used to communicate with the central site computer.

3. Cost of Telecommunication

Remote dial access may result in additional telephone charges from long distance calling or proposed data communications surcharges by the telephone company. Some remote access arrangements include the cost of dedicated, leased telephone lines between the host site and remote access points.

4. Potential Impact on Interlibrary Loan Volume, Cost, Patterns, and Recordkeeping

The primary interest in remote access to automated library systems is for resource identification and placing interlibrary loan requests. Remote access to another library's computer-based catalog may have an impact on the extent to which libraries depend on the resources of the automated library. It is generally assumed online computer access is faster, easier, and more attractive than manual alternatives and that interlibrary loan volume will increase as a result.

If increases in interlibrary loan volume occur as a result of remote access facilities, these increases may affect the workload of interlibrary loan personnel at the host library. This impact may be offset by a reduction in the amount of staff intervention and paperwork because of the greater efficiency of the automated system. Not all remote-access facilities include the provision of interlibrary loan automation.

Not all remote access facilities include true interlibrary loan features, and interlibrary loan statistical and general recordkeeping requirements may involve substantial manual effort. New procedures may be needed to ensure that the necessary statistical and bibliographic information is maintained.

5. Potential Impact on System Performance

Increased use of remote access will result in some level of system degradation. When this level becomes measurable or noticeable, it may lead the host library to reconsider its responsibility to provide remote access facilities to other than its primary clientele.

6. Security of Central Computer Bibliographic and Nonbibliographic Data

   The security of data on the central computer system should be a major concern of the host library under any remote-access arrangement. Libraries have a substantial investment in their local databases. Security-sensitive data is not limited to the bibliographic database but extends to patron records, personnel records, statistical information, and other types of data which may be stored on the computer system as well. There is a potential impact on the privacy of borrower records if other agencies are permitted unrestricted or poorly restricted access to a library's database.

7. Data Ownership and Access Policies

   Ownership of bibliographic and nonbibliographic data is an increasing concern throughout the library community. Questions of data ownership and access may be decided at the local level through library policy, or they may result from contractual arrangements between local libraries and bibliographic utilities or similar information providers. Because of the technical ease with which computer data may be duplicated via any remote access arrangement, questions regarding the permissible use of various types of local data must be addressed by all involved parties.

Recommendations

1. The division should coordinate its planning efforts with public library systems, school districts, academic libraries, the Council of Wisconsin Libraries, and other library agencies throughout Wisconsin which are or may become affected by issues involving remote access.

2. The division should incorporate discussions of remote access issues into the ongoing study of interlibrary loan.

3. The division should assist library systems with area level planning related to remote access.

4. At the area level, consideration of remote-access issues, potential benefits, and problem areas should become part of the planning process involving system automation and communications. All parties should participate in this planning process throughout the system service area.

5. Library systems should develop area funding strategies for remote-access services in cooperation with member libraries and the host library, and systems should assist in promoting the effective utilization of remote-access services through training and publicity.

6. At the local level, libraries should incorporate remote-access considerations into the planning and implementing of local goals and objectives.

7. When planning for automation, local libraries should consider remote-access requirements and issues when developing Requests for Proposal and when evaluating potential library automation vendors. Area participants should be included in the planning and evaluation process regarding remote-access issues.

Issue 13

Linking Automated Library Systems

Question: Should the division encourage and/or support the establishment and maintenance of linking mechanisms between automated library systems?

Background

For the purpose of this issue, intersystem communication is limited to telecommunication techniques which permit two or more integrated automated library systems to communicate and exchange data directly. Examples of this include the IRVING Network and the Linked Systems Project, which involves Illinois University, WLN, the Resource Libraries Information Network, OCLC, and the Library of Congress.

Although intersystem communication systems have been widely discussed throughout the library community for several years, the computer and telecommunications software, hardware, techniques, and standards are only beginning to emerge. The possibility of widespread use of intersystem communication is fairly remote at the present time. Current techniques are costly, and few commercially available options exist. Consequently, this is a speculative issue and the actual implementation of such technology may not begin to occur in Wisconsin for several years.

Libraries should be alerted to the possibility that system-to-system links may evolve in the near future. The knowledge of this potential may affect long term automation planning at the local and area levels throughout the state.

The Problem

1. Remote Access

   Many of the potential problem areas involving intersystem communications are closely related to those dealing with remote access to automated library systems. Questions involving publicity and training, potential impact on interlibrary lending, data security, system performance, and data ownership are similar. The magnitude of the issues may be greater because of the greater speed and complexity of system-to-system communications. Any problems which arise will be magnified as a result of the high cost and high speed of intersystem communication.

2. Cost of Equipment

   Little information is available concerning the exact cost of installing intersystem communication links. The estimated hardware and software costs are quite high. The IRVING Network technique requires a Digital Equipment Corporation MicroVAX computer at each host installation. In addition, IRVING requires the development of customized local software parameters. The MicroVAX software must be modified, at an estimated cost of $40,000 to $45,000, each time a previously undefined host computer configuration is added. Hardware costs for an IRVING installation are estimated at $35,000 to $45,000 per site. Thus, every node on an IRVING network faces front-end installation costs of $35,000 to $90,000.

3. Availability of Hardware and Software

   Only one product exists which will permit this level of intersystem communication. The lack of a competitive market poses serious questions regarding the selection and implementation of intersystem communications. This situation is likely to change during the coming three to five years as the National Information Standards Organization, library vendors, and other interested parties refine standards and techniques required.

4. Need for Transparent System Level Communication

   The potential use of intersystem communications has not been fully explored by the library community. The technique has been discussed as a possible method by which the major bibliographic utilities (OCLC, WLN, RLIN, and the Library of Congress) might exchange data. It has also been considered as a way in which separate but adjacent library agencies might provide transparent access to library information in geographic areas which have a great deal of interdependence. Issues regarding how such technologies might be used among multiple types of libraries at an area level, state level, or regional level have not been sufficiently discussed.

5. Need for Current Awareness Vehicle

   It is difficult for practicing librarians to obtain information needed to understand the possibilities and the technical aspects of intersystem communication. Library administrators and planners must increase their knowledge in this area in order to begin to discuss the potentials for effective use of this emerging technology.

Recommendations

1. The division should encourage libraries to include in RFPs, as they are developed for automated systems, use of the open systems interconnection standard established by the International Standards Organization.

2. The division should coordinate its planning efforts with public library systems, school districts, academic and special libraries, COWL, and other library agencies throughout Wisconsin which are or which may become affected by issues involving intersystem communications.

3. The division should facilitate ongoing continuing education opportunities to the Wisconsin library community in the area of linking and accessing automated library systems.

4. At the area level, consideration of intersystem communications issues should be incorporated into the long-range planning effort, and all parties should participate in this planning process throughout the system service area.

5. Local libraries should consider the needs and possible benefits of system-to-system communications when developing automation plans, when issuing RFPs, and when evaluating vendors or library automation systems for local use.

Issue 14

DLS and Academic and Special Libraries

Question: How should the division cooperate with academic and special libraries in the area of library automation?

Background

Within the broad classifications of academic and special libraries there are several different kinds of libraries. Academic libraries include all of the libraries of the University of Wisconsin System, the libraries of the Vocational, Technical, and Adult Education institutes, and various private academic libraries. Special libraries include academic special libraries, state agency and state institutional libraries, health science libraries, corporate libraries, and a variety of others.

Some of the ways these libraries have been involved in automation are:

The doctoral universities of the UW System, which are UW-Madison and UW-Milwaukee, have been developing their own integrated automation system called the Network Library System. This has recently been altered to include components of the NOTIS system developed by Northwestern University.

Libraries not part of the General Library System on the UW-Madison campus, which include highly specialized libraries, have developed automation activities independent of the general library system.

The libraries of the 11 four-year universities of the UW System developed a joint RFP for an integrated automation system. They then selected the OCLC LS2000 system and are now in the process of installing this system campus by campus. A single vendor was selected with the expectation this would eventually facilitate the sharing of resources among all of the universities.

The libraries of the 12 two-year centers of the UW System currently participate in a centralized OCLC processing center but are not individual participants of OCLC.

The libraries of the 16 VTAE districts have each approached automation differently and are at different stages of development. Only a few of these campuses are members of OCLC. The automation efforts of these libraries are heavily influenced by other automation efforts of their respective districts.

Limited automation has taken place in private academic libraries, although many are participants of OCLC. Each institution will likely be developing its automation efforts independently.

Automation efforts within special libraries vary greatly and are often heavily linked to the systems used by their parent institutions.

The state superintendent of public instruction is charged by sec. 43.03(3), Wis. Stats., to:

(a) Promote cooperation and resource sharing among public libraries, school libraries, other types of libraries and related agencies.

(b) Plan, coordinate, evaluate, and set statewide priorities for the development of networks to enable library cooperation and resource sharing within this state and between this state and resource providers in other states.

Section 43.05(3)(c) and (d), Wis. Stats., also requires the division to provide technical assistance to state agencies and institutional libraries.

It is this statutory responsibility which serves as the basis for the division's cooperation with academic and special libraries in the area of library automation.

In carrying out this responsibility, the state superintendent is advised by two bodies with representatives from both academic and special libraries. These are the Council on Library Network Development and the Library Services and Construction Act Advisory Committee.

Another body through which the division has worked actively to promote cooperation with all types of libraries in the area of library automation COWL, which operates WILS. COWL has representatives from all types of libraries on its governing board. The division holds two permanent seats on COWL and has participated in this organization from its inception in the early 1970's. COWL serves as the state's contractor for services from OCLC.

The division contracts with UW-Madison through WILS for interlibrary loan access by public school, and some other non-WILS libraries to academic library collections. To facilitate this, the division, with the cooperation of WILS, has established an interlibrary loan electronic bulletin board system.

The division has promoted cooperation with both academic and special libraries by involving representatives from these two groups of libraries in statewide planning efforts sponsored by the division. One such effort was the Wisconsin Interlibrary Loan Telecommunications Committee.

The division, primarily with LSCA funds, has provided financial support for cooperative activities in the area of automation involving all types of libraries. These have included funding initial participation in OCLC, union list of serials projects, retrospective conversion of bibliographic records, and copies of WISCAT.

The State Agency Libraries Processing Center, which is operated by the division, serves as a centralized OCLC processing center for state agency and state institutional libraries.

The Reference and Loan Library of the division serves as a broker for selected online database searching services for Wisconsin for all types of libraries. This allows the libraries to receive a discounted price for the services.

The BLD library automation consultant has provided technical assistance to academic and special libraries on library automation and has participated in planning activities involving these libraries. The consultant was active in the planning for the integrated library automation system for the universities of the UW System that do not award doctoral degrees.

Academic libraries and special libraries participate in the statewide database maintained by the division. This is accomplished by making available OCLC tapes of their holdings to the division. The division has worked with some special and some vocational technical institute libraries to provide alternative methods for entering their holdings in the database.

WISCAT provides benefits to academic and special libraries. For libraries with online automated systems, it provides a backup catalog when their online system is down. It also serves as an interlibrary loan tool for these libraries. It also serves as a source for bibliographic records for local automated systems and provides a means for retrospective conversion of government documents.

The Problem

1. There is no single body which has overall responsibility for all types of libraries, and therefore, participation in cooperative library automation efforts is purely voluntary.

2. Limited coordinated library automation planning involving all types of libraries has been undertaken at the state or area levels.

3. For a variety of reasons, the use of shared automation systems at the local or area levels by different types of libraries is almost nonexistent, although the benefits of such sharing could be great.

Recommendations

It should be noted that the recommendations contained in other issue papers, for the most part, also apply to academic and special libraries.

1. The division should continue to include academic and special libraries in its automation planning efforts and communicate information about these planning efforts to academic and special libraries.

2. The division should participate in automation planning efforts sponsored by academic and special libraries.

3. The BLD automation consultant should provide technical assistance to academic and special libraries if such assistance is needed and requested.

4. OCLC and non-OCLC academic and special libraries should continue to be included in the statewide database maintained by the division.

5. The division should promote the involvement and cooperation of academic and special libraries in the library automation planning efforts of public library systems.

6. The division should continue to work closely with COWL in furthering statewide automation activities.

Appendix

Cost Analysis Scenarios for Issues 5 and 7

The COLAND Automation Committee asked Division staff to provide cost information on the current format and three future formats for potential use of the machine-readable information in the WISCAT database. The primary purpose of this analysis was to compare the costs of utilizing different methods for providing the existing level of service to the same clientele as are now served through OCLC and the WISCAT project. A secondary purpose was to assess the feasibility and cost of improving the level of service.

In order to make an accurate and fair comparison, it was necessary to develop the costs using a common scenario which would reflect the same overall purposes, the same number and kind of libraries, the same type and number of transactions, and the same general cost categories. In the future, more libraries would no doubt take part in any potential automation project as the current project(s) continuously grow. However, the existing number of libraries involved in OCLC and WISCAT was used for the purpose of cost comparison.

The four formats for which cost analyses are provided were selected by COLAND from issue paper #5 and are described in more detail below. In considering costs for each scenario, it was also necessary to determine the relationship between the use of the WISCAT database and use of OCLC and whether it was necessary to provide costs for some elements of both projects. The scenarios and a brief description are listed below.

1. Microfiche

   This format represents the status quo. OCLC users continue to use OCLC. The WISCAT database continues to be developed and maintained. The database is produced in the offline microfiche format. MITINET users continue to use this software for retrospective conversion. OCLC cataloging and retrospective conversion costs are included because they are necessary to continue to build the database. WISCAT records and holdings would be loaded into OCLC. All types and sizes of local libraries would continue to be able to extract records from the WISCAT database and receive a variety of products.

2. Compact disc

   In this cost scenario, OCLC users continue to use OCLC. The WISCAT database continues to be developed and maintained. The database is produced in CD-ROM format in place of the current microfiche format. MITINET users continue to use this software for retrospective conversion. OCLC cataloging and retrospective conversion costs are included because they are necessary to continue to build the database. WISCAT records and holdings would be loaded into OCLC. All types and sizes of local libraries would continue to be able to extract records from the WISCAT database and receive a variety of products.

3. Online access - contract with a commercial vendor (Brodart)

   In this scenario, all libraries, including OCLC users, would use this database and vendor services for the purposes described in the scenario. The database would include both OCLC and MITINET records. No offline products (microfiche, CD-ROM) would be produced. All types and sizes of local libraries would continue to be able to extract records from the WISCAT database and receive a variety of products.

4. Online access - OCLC

   In this scenario, WISCAT records and holdings would be loaded into OCLC, and libraries would input all future bibliographic records and holdings into OCLC. Statewide and local products and online access would be produced via OCLC. The WISCAT database and offline products would no longer exist.

Some of these alternatives may not be considered feasible if implemented exactly as in the described scenario. It may be judged more feasible to consider some combination of alternatives. For the purposes of cost comparison, combining the alternatives became very difficult due to the number of possible variations.

It was also not possible to predict exactly how a new format would be used by all possible clientele. Some libraries may not choose to use the new format and if possible would continue to use whatever system they now use. In addition, libraries may find the product more useful in some formats and therefore use it more often. For the purposes of comparison the same numbers were used in each scenario, however.

No attempt has been made at this point to determine or designate whether costs would be paid at the state, area, or local level. The costs are provided in these scenarios for conceptual purposes only.

Purposes

In discussing the purposes for bibliographic database development listed in issue paper #1, there was general consensus among committee members that any new format should allow for at least the same level of access and use that the existing microfiche format offers and that it should be feasible and cost effective to use the new format for the first seven purposes listed in the recommendations of Issue 1.

These purposes are as follows:

- Development of an interlibrary loan tool for verification of specific titles and library holdings.
- Development of a reference tool for verifying available information on specific subjects and verifying complex bibliographic citations.
- Development of a database which could be used by libraries to create machine-readable bibliographic records for use in local and area level automation projects.
- Development of a tool which could be used as a guide for selecting miscellaneous pieces of cataloging information such as call numbers, subject headings, correct main entries, cataloging information, catalog card filing rules, and other information.
- Development of a tool for use in selection of materials for library collections.
- Development of a catalog which could be used by local libraries as a backup to local online circulation systems or library catalogs.
- Development of a catalog which could be used by library users to supplement local library catalogs.

In addition, several committee members were interested in the potential for using the database as a primary source of current cataloging information.

Description of the scenario to be used in providing cost information

Number of libraries:

Libraries of all types are represented, including public, school, academic, VTAE, and special libraries. There are a total of 500 libraries for the purposes of this cost analysis. They are broken down as follows:

1. Libraries currently using OCLC.

   100 cataloging libraries

2. Libraries currently using WISCAT and MITINET.

   290 libraries

3. Libraries currently using a copy of WISCAT alone.

   110 libraries

   (This count includes 65 libraries which are OCLC processing center libraries and do not have online access to OCLC. It also includes 45 libraries which do not have OCLC and do not yet use MITINET.)

Number and type of transactions

1. For OCLC libraries: The number and type of transactions which these libraries currently incur through normal use. Volume figures are for 1985/86 and prices are for 1986/87. (Also see #3 below.)

Type of Transactions	Number of Transactions	Cost of Transactions
Current cataloging		
Prime time	263,200	$365,848
Non-prime time	147,069	172,071
Original credits	85,830	(42,915)
Retrospective conversion		
Prime time	6,151	7,197
Non-prime time	377,767	113,330
Microcon	295,437	100,449
Catalog cards	4,706,756	254,165
Display holdings	186,420	16,778
Dial access connect/minutes	177,839	28,454
Dedicated telecommunications	NA	188,276
Dial access passwords/author	48	11,904
M300 maintenance	68	29,376
Terminal maintenance	91	49,140
Modems	72	56,160
System service fee	152	51,072
Searches over threshold	842,600	50,556

2. For WISCAT and MITINET libraries which are not OCLC users.

   a. Searches for interlibrary loan information

      – Searches by author/title — 1,500/year (4-5/day)
      1 min./search = 1,500 min.

      – Searches for holdings information — 1,000 per year (2-3/day)
      1 min./search = 1,000 min.

   b. Searches by subject — 1,200 per year (3-4/day)
      2 min./search = 2,400 min.

   c. Cataloging — 2,500 per year (6-7/day)
      3 min./search = 7,500 min.

   d. Retrospective conversion — 3,000 per year (8-9/day)*
      3 min./search = 9,000 min.

      *In 1985-86 libraries created over 1,170,000 retrospective conversion transactions using MITINET.

   TOTAL per library — = 9,200 searches per year
   = 21,400 min. = 356 hrs. = 6.8 hours/week
   = 27 hrs./month

   (This estimate is probably low for some of the scenarios as library staff might be expected to use an online system more than an offline product if the system is easy to search. These figures are based on estimated use of WISCAT and cataloging estimates supplied by libraries.)

3. For libraries using WISCAT which also have access to OCLC.

   Most public library systems and some other libraries use OCLC for cataloging and use WISCAT for interlibrary loan or reference purposes. Therefore, additional transactions need to be recorded if one format serves both purposes. Use of WISCAT information in another format may involve purchase of additional equipment to satisfy the needs of the reference or interlibrary loan work unit. For this comparison, assume 17 public library systems have this additional need.

   a. Searches for interlibrary loan information
      – Searches by author/title — 7,000 per year
      – Searches for holdings information — 6,000 per year

   b. Searches by subject — 3,000 per year

Type of access

Offline (if applicable)

Online (if applicable)

110 libraries have leased line access and 390 libraries have dialup access as follows:

– Assume 85 OCLC users have leased line access.

– Assume 15 current OCLC have dialup access.

– Assume 25 WISCAT and MITINET libraries have leased line access.

– Assume the remaining 375 libraries have dialup access.

Size of database (Wisconsin holdings)

2.7 million titles
10 million holdings
600,000 titles not in OCLC (estimate only)
3.2 million holdings not in OCLC (MITINET, GPO, tape loads)
315,000 unique titles added each year to WISCAT (These titles may not be unique to OCLC.)

October 1, 1986

Cost of State Database on Microfiche

		OCLC USERS		MITINET/WISCAT USERS		
	UNIT COST	Number of Units	Cost	Number of Units	Cost	TOTAL COST for both Users
ONE TIME EQUIPMENT STARTUP COSTS						
Microfiche readers	$150.000	0	$0.000	0	$0.000	$0.000
ANNUAL COSTS						
Equipment Maintenance/Other						
OCLC						
M300 maintenance/year	$432.000	68	$29,376.000			$29,376.000
Terminal maintenance/year	$540.000	91	$49,140.000			$49,140.000
Modem (Leased Line)/year	$780.000	72	$56,160.000			$56,160.000
System service fee/year	$336.000	152	$51,072.000			$51,072.000
Dial access password/year	$248.000	48	$11,904.000			$11,904.000
Dial access/cataloging/hrs.	$9.600	2,964	$28,454.400			$28,454.400
Basic service fee	$50.000	84	$4,200.000			$4,200.000
On-going support	11.7%		$106,894.836			$106,894.836
Production of Records (Library)						
Current cataloging						
OCLC						
Prime time	$1.390	263,200	$365,848.000			$365,848.000
Non-prime time	$1.170	147,069	$172,070.730			$172,070.730
Credits	($0.500)	85,830	($42,915.000)			($42,915.000)
MITINET						
MARC fiche/year	$90.000			200	$18,000.000	$18,000.000
Supplement/year	$95.000			200	$19,000.000	$19,000.000
Retrospective conversion						
OCLC						
Prime time	$1.170	6,151	$7,196.670			$7,196.670
Non-prime time	$0.300	377,767	$113,330.100			$113,330.100
Microcon	$0.340	295,437	$100,448.580			$100,448.580
MITINET	$0.000				$0.000	$0.000
GPO			$2,000.000		$2,000.000	$4,000.000
Database Maintenance						
Add unique MARC records	$0.070	240,000	$16,800.000	50,000	$3,500.000	$20,300.000
Add non-MARC records	$0.200			25,000	$5,000.000	$5,000.000
Update/change records	$0.000					$0.000
Delete records	$0.000					$0.000
Correct errors	$0.000					$0.000
Delete duplicate records						$0.000
LCCN consolidation/indexes	$0.005				$20,400.000	$20,400.000
Extraction support/year	$6,000.000				$6,000.000	$6,000.000

Cost of State Database on Microfiche (continued)

	UNIT COST	OCLC USERS Number of Units	OCLC USERS Cost	MITINET/WISCAT USERS Number of Units	MITINET/WISCAT USERS Cost	TOTAL COST for both Users
Software Development/Maintenance						
Annual salary (programmer)	$29,465.856				$29,465.856	$29,465.856
Administration						
Annual salary (database manager)	$18,925.235				$18,925.235	$18,925.235
LTE recordkeeping	$8,802.590				$8,802.590	$8,802.590
Training/Consultation						
Annual salary (database manager)	$18,925.235				$18,925.235	$18,925.235
Other (Annual)						
Supplies	$4,100.000				$4,100.000	$4,100.000
Archival tapes	$1,000.000		$1,000.000			$1,000.000
MACC transmission	$6,000.000				$6,000.000	$6,000.000
Travel	$5,000.000				$5,000.000	$5,000.000
Statistics	$500.000				$500.000	$500.000
Products from Whole Database						
Tapes	$1,200.000				$1,200.000	$1,200.000
Microfiche						
Master/title/copy	$0.032			2,700,000	$86,400.000	$86,400.000
Copies/per set of fiche	$554.000	100	$55,400.000	400	$221,600.000	$277,000.000
TOTAL (ONE TIME EQUIPMENT)			$ 0.000		$ 0.000	$ 0.000
TOTAL ANNUAL OCLC			$1,053,180.316			$1,053,180.316
TOTAL ANNUAL BRODART/OTHER			$ 73,200.000		$ 474,818.917	$ 548,018.917
STATE MICROFICHE PROJECT TOTAL			$1,126,380.316		$ 474,818.917	$1,601,199.233

PRODUCTS FOR LIBRARIES

Products from Database Subset

Tapes (archival)	None		
Tapes (deduped)	per title/.005		
Microfiche	Varies		
Microfilm	Varies		
CD-ROM	Varies		
WISCAT Tapeload			
Initial/OCLC number	$0.120	2,100,000	$252,000.000
Initial/unique	$0.200	600,000	$120,000.000
Annual	Combination	315,000	$41,000.000

Notes for Costs of Database on Microfiche

All costs are based on actual costs of the current project.

Participation:

OCLC users include 100 libraries which currently have online access. Processing center users are listed under WISCAT/MITINET for all costs besides cataloging because this is the current format used to supply them with bibliographic and holdings information. This distinction is not important for this scenario, but this assignment is consistent with that used in the other scenarios. There are 400 WISCAT/MITINET users.

Equipment:

A microfiche reader is needed to use the WISCAT microfiche. It is assumed that all current users of WISCAT have this equipment.

Production of records:

OCLC libraries contribute records through use of the OCLC system and these records are added to the database by processing OCLC archival tapes. Other libraries add records through use of MITINET or through tapeload of records from other automated systems. Costs of adding both OCLC and MITINET transactions to the database are listed under database maintenance. Production of records using either method also involves labor costs which are not listed here.

The cost of computer transactions and other items are listed in this budget. OCLC costs are based on actual OCLC usage for 1985/86 and prices are for 1986/87. While OCLC costs are usually paid for locally, the costs are included here to show all costs associated with the project.

The MARC fiche allow MITINET libraries to use bibliographic records in the Library of Congress MARC file which are not on the WISCAT database. Currently libraries share use of the MARC fiche, therefore fiche are only bought for 1/2 of the libraries participating.

Costs for retrospective conversion including labor have been kept as a result of tracking LSCA projects. Use of OCLC has averaged $.66 per transaction and use of MITINET has averaged $.36 per transaction when labor is taken into account.

Database maintenance:

While bibliographic records can be added from a variety of sources, only the addition of unique records incurs a cost. Once a record is in the database, there is no charge to add holdings from another library or to make changes to that record.

Local products:

Local products can be created after records are extracted from the database. Extraction costs are not charged if local CD-ROM or COM products are produced. There is an extraction charge for tape products if the database(s) to be extracted do not equal 100,000 titles. Support for smaller database extraction is included under MITINET since these libraries are most likely to have small databases.

Both OCLC and MITINET libraries can make extractions. Unit costs for products vary depending on the number of titles included. For example, a small library with 2,500 titles will pay $.07 per title for a microfiche or CD-ROM master and $.00053 per title for microfiche copies. A large library with over 500,000 titles will pay $.04 per title for a master and $.000031 per title for microfiche copies. CD-ROM copies are based on disk ($15.00 per disk) rather than title costs.

Notes on Purpose

- **Development of an interlibrary loan tool for verification of specific titles and library holdings.**

The microfiche is a very useful tool for interlibrary loan. The database includes records from a variety of types and sizes of libraries. Full bibliographic records are available to aid in identification of different editions and formats. Information on nearly 3 million titles and 10 million holdings are available.

The weakness of this format for interlibrary loan is that the material cannot be kept up-to-date instantaneously. Normally a database of this size would not be entirely updated more than annually. It would be possible to produce supplements.

- **Development of a reference tool for verifying available information on specific subjects and verifying complex bibliographic citations.**

The microfiche can be used for this purpose. Subject access is available, since a separate subject section has been created.

- **Development of a database which could be used by libraries to create machine-readable bibliographic records for use in local and area level automation projects.**

The database from which the microfiche is created allows for records to be contributed from a variety of sources. Records can be extracted from this database for a single library or a group of libraries. Subsets of the database can be produced on tape, COM, or CD-ROM format. Statewide prices have or could be negotiated for any of the above formats. The bibliographic records extracted will be the master records in the database and will not contain each library's bibliographic variations. The detailed holdings statement will contain each library's variations.

- **Development of a tool which could be used as a guide for selecting miscellaneous pieces of cataloging information: such as call numbers, subject headings, correct main entries, cataloging information, catalog card filing rules, and other information.**

The bibliographic records on the microfiche would contain all of the above information.

- **Development of a catalog which could be used by local libraries as a backup to local online circulation systems or library catalogs.**

Libraries currently use the microfiche to locate titles in their collections when online systems are not operating. Purchasing copies of the statewide fiche is often more cost effective than creating a local fiche.

- **Development of a tool which could be used as a primary source of current cataloging information.**

This WISCAT microfiche does not serve as an efficient means of providing current cataloging. The database will not be up-to-date unless supplements are produced. The information may be useful at the time the database is produced but will become decreasingly so as time passes. Libraries can create current machine-readable catalog records using the LC MARC fiche and MITINET/retro but cannot produce cards in this process. Cards can be produced using MITINET/ marc and ULTRACARD MARC on an IBM-PC. However, it will not be cost effective to produce all records in this fashion and may not provide satisfactory input into the database as duplicate records could be created and go undetected.

Other Comments

The WISCAT tapes received from Brodart could be loaded into OCLC at a cost of $324,000. OCLC would read each record on the tape and set a three letter code for each library listed. It is not clear how these records would be updated on OCLC if holdings changed. OCLC cannot currently process MITINET transactions. Detailed holdings information (call number, copies, etc.) would not be entered into OCLC. If the tapes are loaded into OCLC, only OCLC libraries would have access to the records via OCLC. In this case, OCLC libraries might not need a copy of the CD-ROM equipment or a copy of the CD-ROM disks.

Cost of State Database Online Using OCLC

	UNIT COST	OCLC USERS		MITINET/WISCAT USERS		TOTAL COST for both Users
		Number of Units	Cost	Number of Units	Cost	
ONE TIME EQUIPMENT STARTUP COSTS						
Leased line users						
M300 microcomputer	$3,015.00	0	$0.00	25	$75,375.00	$75,375.00
Printer/cables	$358.00	0	$0.00	25	$8,950.00	$8,950.00
Dialup users						
Microcomputer	$1,405.17	0	$0.00	375	$526,938.75	$526,938.75
Printer/cables	$358.00	0	$0.00	375	$134,250.00	$134,250.00
Modem	$371.00	0	$0.00	375	$139,125.00	$139,125.00
Software	$30.00	0	$0.00	375	$11,250.00	$11,250.00
OCLC profiling: full user	$150.00	0	$0.00	335	$50,250.00	$50,250.00
ANNUAL COSTS						
Equipment Maintenance						
M300 maintenance/year	$432.00	68	$29,376.00	25	$10,800.00	$40,176.00
Terminal maintenance/year	$540.00	91	$49,140.00	0	$0.00	$49,140.00
Modem (leased line)/year	$780.00	72	$56,160.00	25	$19,500.00	$75,660.00
System service fee/year	$336.00	152	$51,072.00	25	$8,400.00	$59,472.00
Production of Records (Library)						
Current cataloging						
Prime time	$1.39	263,200	$365,848.00	837,500	$1,164,125.00	$1,529,973.00
Non-prime time	$1.17	147,069	$172,070.73	0	$0.00	$172,070.73
Credits	($0.50)	85,830	($42,915.00)	0	$0.00	($42,915.00)
Catalog cards	$0.054	4,706,756	$254,164.82	4,187,500	$226,125.00	$480,289.82
Retrospective conversion						
Prime time	$1.17	6,151	$7,196.67	0	$0.00	$7,196.67
Non-prime time	$0.30	377,767	$113,330.10	1,005,000	$301,500.00	$414,830.10
Microcon	$0.34	295,437	$100,448.58	0	$0.00	$100,448.58
Online Access						
Telecommunications						
Leased line/year	$1,680.00	112	$188,160.00	25	$42,000.00	$230,160.00
Dialup						
Password authorization/year	$248.00	48	$11,904.00	375	$93,000.00	$104,904.00
Catalog & search charge/hr.	$6.99	2,964	$20,718.36	104,520	$730,594.80	$751,313.16
Searching charge/hr.	$6.99	0	$0.00	3,120	$21,808.80	$21,808.80
Searching transactions						
Searches (A/T) /threshold	$0.06	842,600	$50,556.00	611,900	$36,714.00	$87,270.00
Searches/holdings	$0.15	186,420	$27,963.00	502,000	$75,300.00	$103,263.00
Administration						
COWL Basic service fee	$50.00	84	$4,200.00	400	$20,000.00	$24,200.00

Cost of State Database Online Using OCLC (continued)

	UNIT COST	OCLC USERS Number of Units	OCLC USERS Cost	MITINET/WISCAT USERS Number of Units	MITINET/WISCAT USERS Cost	TOTAL COST for both Users
Training/Consultation/Support						
Initial training	$1,000.00	0	$0.00	400	$400,000.00	$400,000.00
On-going support	11.7%		$145,818.84		$226,449.29	$372,268.13
Products from Whole Database						
Archive tapes/annual						
Per record charges	$0.035	12,000	$420.00			$420.00
	$0.030	48,000	$1,440.00			$1,440.00
	$0.028	180,000	$5,040.00			$5,040.00
	$0.023	360,000	$8,280.00			$8,280.00
	$0.019	507,933	$9,650.73			$9,650.73
	$0.015	0.00	$0.00	1,237,500	$18,562.50	$18,562.50
	$0.014	91,934	$1,287.08			$1,287.08
Per tape charge	$35.000	67	$2,345.00	4	$140.00	$2,485.00
Per "frequency" charge	$55.000	12	$660.00			$660.00
TOTAL (ONE TIME EQUIPMENT)			$0.00		$946,138.75	$946,138.75
TOTAL ANNUAL			$1,634,334.91		$3,395,019.39	$5,029,354.30
ONLINE ACCESS PROJECT TOTAL			$1,634,334.91		$4,341,158.14	$5,975,493.05

PRODUCTS FOR LIBRARIES

Products from Database Subset

Tapes (archival)	None		
Tapes (deduped)	per title/.005		
Microfiche	Varies		
CD-ROM	Varies		
Local database storage	per title/.005		
Interlibrary loan transmission			
Produces	$0.99		
Referrals	$0.99		
Holdings display use	$0.15		
Lending credit	($0.20)		
Serials union list holdings	$0.06		
Microenhancer software	$275.00		
Serials union list			
Holdings data creation	$0.24		
Holdings updates	$0.07		
Start up fees	$340.00		
Subject searching/BRS			
Connect hour	$56.00		
Citations	$0.14		
WISCAT Tapeload			
Initial/OCLC number	$0.120	2,100,000	$252,000.000
Initial/unique	$0.200	600,000	$120,000.000

Notes for Costs of OCLC Online Database

Costs for OCLC libraries are based on the number of transactions or units used or in place in 1985-86 times the costs per transactions or units for 1986-87. Costs for MITINET libraries are based on unit costs multiplied by the estimated number of units in the cost scenario document.

Participation:

OCLC library costs are based on the current level of equipment and activity. MITINET/WISCAT library costs are based on a single terminal per library. Costs are based on 85 OCLC libraries and 25 MITINET/WISCAT libraries using leased lines and 15 OCLC libraries and 375 MITINET/WISCAT libraries using dialup lines. OCLC processing center libraries receive cataloging through the processing center, but have online access for searching.

Equipment:

OCLC libraries use M300 terminals (microcomputer) or older model terminals as already installed. Dialup users use IBM-PC equipment at state contract costs. This equipment includes a standard IBM-PC (256K) with monitor, keyboard, cables, printer and modem. Apple or IBM-PC compatible equipment would be cheaper. Many libraries already have equipment which could be used, however, costs are figured as if all libraries bought equipment for this purpose. All MITINET libraries already have Apple or IBM terminals which could be used for this purpose if the level of searching does not interfere with other services.

Production of records and data input:

All production of records would be accomplished online via the OCLC database. The 65 OCLC processing center libraries receive current cataloging and retrospective conversion services through the processing center library and the costs are included in the OCLC column for cataloging.

Database maintenance:

Ongoing database maintenance for OCLC is built into the production of records costs incurred by each library when a record is used for the first time.

Telecommunications:

It is assumed that libraries using the dialup connection to catalog will spend 26 hours per month using OCLC. Processing center libraries which do not catalog or do retrospective conversion will spend 4 hours per month using OCLC. Subject searching is not included as this cannot be done on OCLC.

Administration/training/consultation/support:

The category for on-going support covers costs for all of the above items and is put under training because this is the predominate purpose. This cost is figured as a percentage of costs associated with annual equipment maintenance, production of records, and searching costs. Telecommunications, equipment costs, training and other items are not included.

Products from the whole database:

At the present time, OCLC is developing two types of CD-ROM products. The first is a Reference CD-ROM; the second is a cataloging CD-ROM which has an online connection for batch up-loading or records. Both products will contain portions of the OCLC database. No cost, production schedule or specific product description information are yet available. It is not known whether OCLC will be able to produce custom CD-ROM from individual library or statewide databases even if all holdings are in OCLC.

Local products:

OCLC produces archival tapes which contain a copy of each record created each time the system is used. These tapes contain duplicate records for the same title and must be "deduped" prior to being used in any automated system. They are also in OCLC MARC format rather than LC MARC format. There is often an added cost to carry out this process prior to loading a record into a local system.

OCLC does not produce microfilm or microfiche from the bibliographic database. Microfiche can be produced from the serials union list only. CD-ROM products are not currently produced for individual libraries or groups of libraries. Tapes are not produced for customized output which can be loaded into other vendors systems or microcomputer systems. Libraries can contract with other vendors to process OCLC archival tapes and produce microfilm, microfiche, CD-ROM or customized tape products. Each library would have to do this individually as this process would not be covered by a statewide contract under this scenario.

Notes on Purposes

- Development of an interlibrary loan tool for verification of specific titles and library holdings.

The OCLC database contains 14 million records with holdings for libraries throughout the country. A directory contains interlibrary loan policies for the libraries with holdings in the database. An online interlibrary loan system allows for the completion of both verification and request transmission processes. Costs for verification of requests are included under searching and display holdings charges. Costs of using the interlibrary loan subsystem are not included in this analysis.

- Development of a reference tool for verifying available information on specific subjects and verifying complex bibliographic citations.

The database contains full bibliographic records which can be used for verification of complex citations. Since the database is very large and up-to-date, most citations are likely to be found.

Subject access is not available on the OCLC online system. Subject access to a portion of the OCLC file which may not contain all the holdings of any individual library is available through BRS. The costs of searching BRS are not included in this analysis.

- Development of a database which could be used by libraries to create machine-readable bibliographic records for use in local and area level automation projects.

Bibliographic records and holdings cannot be extracted directly from the OCLC database. Records of each transaction are produced on archival tapes. WILS receives monthly archival tapes from OCLC containing the records of all OCLC users. These tapes are maintained by the UW-Madison Administrative Data Processing Department (ADP). Extractions can be made from the archival tapes by ADP. This cost will normally not exceed $400 and varies depending on the number of records extracted.

These archival tapes must be processed by a vendor prior to loading the records into most local systems. Many vendors of mini-computer systems can process these records, but there may be an added cost to do so. Microcomputer vendors frequently cannot process these OCLC archival tape records. The costs of processing archival tapes are not included in this cost analysis.

Some vendors have the capability of loading records individually from the OCLC online system to the local system. This process requires purchase of additional equipment and the cost of doing this is not provided in this cost analysis.

- Development of a tool which could be used as a guide for selecting miscellaneous pieces of cataloging information, such as call numbers, subject headings, correct main entries, catalog card filing rules, and other information.

The database contains all of the above information and could be used for this purpose.

- Development of a tool for use in selection of materials for library collections.

The size of the database makes OCLC a good source of information on the availability of titles and can be used to determine if purchases are needed.

OCLC also has both an online and a microcomputer-based acquisitions system which facilitates the ordering process, including direct transmission of orders to many jobbers. The costs of the acquisition are not included in this cost analysis.

- Development of a catalog which could be used by local libraries as a backup to local online circulation systems or library catalogs.

Although OCLC could be used as backup to local online circulation systems or online catalogs, its value for this purpose is limited because the database contains only master records. Call numbers and other local modifications are not shown on the online system. Also only three-letter symbols are shown on the online system so internal four-letter code information is not available online.

- Development of a catalog which could be used by library users to supplement local library catalogs.

Some OCLC libraries have OCLC terminals in their public access areas for staff and patron use.

- Development of a tool which could be used as a primary source of current cataloging information.

The primary purpose of the OCLC system is shared cataloging. Cataloging is the foundation upon which all the other features of the system are built. Through the cataloging process, a database for verification and interlibrary loan is created. Libraries may make modifications to records in the database and these modifications are kept on the archival tapes.

Cost of State Database Online Using Brodart

	UNIT COST	OCLC USERS		MITINET/WISCAT USERS		TOTAL COST for both Users
		Number of Units	Cost	Number of Units	Cost	
ONE TIME EQUIPMENT STARTUP COSTS						
Leased line users						
Technical services terminal	$2,384.00	159	$379,056.00	25	$59,600.00	$438,656.00
Printer and adapter	$1,400.00	85	$119,000.00	25	$35,000.00	$154,000.00
Cluster adapter (multiple term.)	$500.00	47	$23,500.00	0	$0.00	$23,500.00
Modem	$4,450.00	85	$378,250.00	26	$115,700.00	$493,950.00
Software	$0.00	85	$0.00	25	$0.00	$0.00
Installation	$680.00	85	$57,800.00	25	$17,000.00	$74,800.00
Dialup users						
Microcomputer	$1,405.17	15	$21,077.55	375	$526,938.75	$548,016.30
Printer/cables	$358.00	15	$5,370.00	375	$134,250.00	$139,620.00
Modem	$371.00	15	$5,565.00	375	$139,125.00	$144,690.00
Software	$150.00	15	$2,250.00	375	$56,250.00	$58,500.00
ANNUAL COSTS						
Equipment Maintenance						
Technical services terminal/year	$312.00	159	$49,608.00	25	$7,800.00	$57,408.00
Printer	$252.00	85	$21,420.00	25	$6,300.00	$27,720.00
Cluster adapter/year	$120.00	47	$5,640.00	0	$0.00	$5,640.00
Modem (leased line)/year	$360.00	85	$30,600.00	25	$9,000.00	$39,600.00
Software	$0.00	85	$0.00	25	$0.00	$0.00
Production of Records (Library)						
Current cataloging						
Transactions	$0.00	496,099	$0.00	837,500	$0.00	$0.00
Catalog cards	$0.04	4,706,756	$188,270.24	4,187,500	$167,500.00	$355,770.24
Storage/year	$0.005	496,099	$2,480.50	837,500	$4,187.50	$6,668.00
Retrospective conversion						
Transactions	$0.00	679,355	$0.00	1,005,000	$0.00	$0.00
Storage/year	$0.005	679,355	$3,396.78	1,005,000	$5,025.00	$8,421.78
Database Maintenance						
Add unique records	$0.07	240,000	$16,800.00	50,000	$3,500.00	$20,300.00
Add non-MARC records	$0.20			25,000	$5,000.00	$5,000.00
Update/change records	$0.00					
Delete records	$0.00					
Correct errors	$0.00					
Delete duplicate records						
LCCN consolidation/indexes	$0.005				$20,400.00	$20,400.00
GPO			$2,000.00		$2,000.00	$4,000.00
Storage costs/month	$10,000.00				$120,000.00	$120,000.00
Extraction support/annual	$6,000.00				$6,000.00	$6,000.00

Cost of State Database Online Using Brodart (continued)

	UNIT COST	OCLC USERS Number of Units	OCLC USERS Cost	MITINET/WISCAT USERS Number of Units	MITINET/WISCAT USERS Cost	TOTAL COST for both Users
Online Access						
Telecommunications						
Leased line						
Main drop/per month	$1,200.00				$14,400.00	$14,400.00
Multi-drop lines/per month	$330.00	85	$336,600.00	25	$99,000.00	$435,600.00
Port access/per month	$250.00	85	$255,000.00	25	$75,000.00	$330,000.00
Dialup						
Tymnet ports/per 8/month	$1,600.00	15	$36,000.00	375	$900,000.00	$936,000.00
Logon/port access/month	$182.00	15	$32,760.00	375	$819,000.00	$851,760.00
Phone charges	$7.00	15	$34,020.00	375	$850,500.00	$884,520.00
Transaction Costs	$0.00	1,029,020	$0.00	621,000	$0.00	$0.00
Administration						
Salary & f.b. (db manager)/year	$37,850.47				$37,850.47	$37,850.47
LTE quality control	$8,802.59				$8,802.59	$8,802.59
Training/Consultation						
Salary & f.b. (trainer/cons)/year	$26,516.64				$26,516.64	$26,516.64
Training from Brodart	$500.00		$1,000.00		$3,000.00	$4,000.00
Other (Annual)						
Supplies	$4,100.00				$4,100.00	$4,100.00
Travel	$10,000.00				$10,000.00	$10,000.00
Statistics	$500.00				$500.00	$500.00
Products from Whole Database						
Tapes	$1,200.00				$1,200.00	$1,200.00
TOTAL (ONE TIME EQUIPMENT)			$ 957,606.00		$1,027,613.75	$1,985,219.75
TOTAL ANNUAL						
ONLINE ACCESS PROJECT TOTAL			$1,973,201.51		$4,234,195.95	$6,207,397.46

PRODUCTS FOR LIBRARIES

Products from Database Subset

Tapes (archival)	None
Tapes (deduped)	per title/.005
Microfiche	Varies
CD-ROM	Varies
Local database storage	per title/.005

Notes for Costs of Brodart Online Database

All costs are based on estimates made by Brodart. Actual costs would be obtained through a bid process and might well be less than listed here.

Participation:

It is assumed that new equipment would be purchased for all libraries. Costs are provided based on all OCLC libraries having the number of terminals they now have and WISCAT/MITINET libraries having a single terminal or microcomputer for use of the system. It is assumed that all libraries would have online access to the database either through use of leased lines or dialup lines. Costs are based on 85 OCLC libraries and 25 MITINET/WISCAT libraries using leased lines and 15 OCLC libraries and 375 MITINET/WISCAT libraries using dialup lines.

Equipment:

The equipment used by libraries with leased lines includes: a Telex terminal and printer and a 9600 baud modem. One extra modem is needed for San Diego. Installation includes equipment and phone line installation. IBM 3276 terminals may also be used. Terminals with security features for public and patron use are available at approximately the same price. The technical services equipment would allow libraries to search the database and input data into the database once authorization to do so is given. Microcomputers cannot now be used on leased lines, but Brodart is working on this capability.

Dialup users may use Apple or IBM computers and telecommunications software which emulates an IBM 3270 terminal (Crosstalk and Apple Access are recommended and it is not now known whether PC-Talk or ASCII Express will also work). The cost includes a standard IBM-PC (256K) with monitor, keyboard, cables, printer and modem. Apple or IBM-PC compatible equipment would be cheaper. Many libraries already have equipment which could be used; however, costs are figured as if all libraries bought equipment for this purpose. All MITINET libraries already have Apple or IBM terminals which could be used for this purpose if the level of searching does not interfere with other services.

Production of records and data input:

Libraries could have the capability of adding or updating records directly into the database. There are several reasons this may not be desirable from the point of view of the library or the state. The database contains a master record, and it may not be desirable from a quality control standpoint to give all users the authorization to change that record in the database directly. Brodart would create a workspace for records which are cataloged or changed.

It is assumed that all libraries will catalog on the system in this scenario. Libraries which use Brodart for cataloging and want to save local variations in the bibliographic record, must set up a separate database with Brodart. Local database storage costs are $.005 per record. Catalog cards cost $.04 per record.

MITINET/WISCAT users' transactions are figured on the basis of 400 libraries cataloging 2500 titles a year and doing 3000 retrospective conversions a year (total for 1985/86 divided by 400). It is assumed that all libraries would catalog using this system.

Database maintenance:

While bibliographic records can be added from many libraries, only the addition of unique records incurs a cost. Once a record is in the database, there is no charge to add holdings from another library or to make changes to that record. The cost of the addition of unique cataloging records is listed under database maintenance rather than cataloging.

Telecommunications:

Leased line costs are based on estimates of the cost of lines from AT&T. Actual line costs per library could vary depending on the location of the library. Average costs were used based on estimates for the entire state. Line costs might be less if the state contracted for leased line use as a part of the telephone contract, but this is not yet possible. A trunk line is necessary from Wisconsin (probably in La Crosse) to San Diego where the computer and database are located.

Dialup use does not incur phone line charges as Brodart uses an 800 number for this purpose. Telephone charges are included in the $25 connect time cost. It is assumed that libraries will use 27 hours per month at $25 per hour. At 15 hours a month, Brodart recommends using a leased line as this appears to be the breakeven point.

Training:

It is assumed in this scenario that Brodart would hold 6 workshops around the state for training. It is assumed that DLS staff would be hired to provide training as well.

Local products:

Local products can be created after records are extracted from the database. Extraction costs are not charged if local CD-ROM or COM products are produced. There is an extraction charge for tape products if the database(s) to be extracted do not equal 100,000 titles. Support for smaller database extraction is included under MITINET since these libraries are most likely to have small databases. Both OCLC and MITINET libraries can make extractions.

Unit costs for products vary depending on the number of titles included. For example, a small library with 2,500 titles will pay $.07 per title for a microfiche or CD-ROM master and $.00053 per title for microfiche copies. A large library with over 500,000 titles will pay $.04 per title for a master and $.000031 per title for microfiche copies. CD-ROM copies are based on disc ($15 per disc) rather than title costs.

Notes on Purposes

- Development of an interlibrary loan tool for verification of specific titles and library holdings.

The database would contain over 2.7 million bibliographic records and over 10 million library holdings in Wisconsin. This database would be updated frequently and be more up-to-date than the WISCAT microfiche and probably more up-to-date than a potential CD-ROM product.

The database contains all four letter OCLC codes including internal library codes. Experienced OCLC users would find this useful. Non-

OCLC users may find it confusing as no translation of library names is used as on WISCAT.

The software does allow transmission of interlibrary loan requests to other libraries using the system.

- Development of a reference tool for verifying available information on specific subjects and verifying complex bibliographic citations.

The database contains full bibliographic records which can be used for verification of complex citations. In addition the search strategies are flexible and powerful. Subject access is available through searching subject headings or by key word searching.

- Development of a database which could be used by libraries to create machine-readable bibliographic records for use in local and area level automation projects.

Bibliographic records and holdings can be extracted from the database. Libraries can do retrospective conversion by searching the database online. Unique records can be added to the database using the cataloging/maintenance function and records can also be modified. Use of the cataloging/maintenance function requires knowledge of MARC fields and tags. The staff in many non-OCLC libraries are not currently familiar with MARC, and this would require extensive training to assure the records would be created properly. If the proper information is not entered in each MARC field, the machine-readable records will not process correctly in a future automated system.

- Development of a tool which could be used as a guide for selecting miscellaneous pieces of cataloging information: such as call numbers, subject headings, correct main entries, catalog card filing rules, and other information.

The database contains all of the above information and could be used for this purpose.

- Development of a tool for use in selection of materials for library collections.

The database would contain bibliographic records and holdings of 500 or more Wisconsin libraries and would be a very useful guide to determine whether or not items should be purchased depending on estimated use of the item.

- Development of a catalog which could be used by local libraries as a backup to local online circulation systems or library catalogs.

The Brodart software was designed specifically to be used as an online catalog for staff or patron searching. It is easy to use and has a number of fairly powerful searching capabilities. Hardware and software security features are available for staff or patron searching. It would be very useful as a backup to an online circulation system or catalog for finding bibliographic information. It would not keep track of circulation information. Only one user could use a single work station at a time. Depending on the frequency of use, more than one terminal might be needed for patron use.

- Development of a catalog which could be used by library users to supplement local library catalogs.

The software was specifically designed for online catalog use. It is possible to restrict searches to only the holdings of a single library so that the state union list could be used as a local library catalog.

- Development of a tool which could be used as a primary source of current cataloging information.

This software is not designed primarily for cataloging. Currently libraries can print shelf list cards on site, and Brodart has the ability to produce full sets of catalog cards as an offline service. Use of the system for cataloging requires knowledge of MARC fields and tags. Libraries which use the database for cataloging purposes and wish to keep local variations in the bibliographic records would need to set up separate databases with Brodart.

In this scenario, it is assumed that cataloging information would be kept online for one year only. Libraries could also keep their entire database online, but the cost would be much greater each year. Unless they plan to use their individual database online, it is assumed that transactions would be stored on tape after a year or loaded into a local automation system on a regular schedule. Interfaces may be available between Brodart and some circulation system vendors.

Brodart would need to update the database from the transactions created in a master workfile or the local databases. It is not clear how frequently this would be done. Separate databases are necessary to allow libraries to preserve local cataloging variations.

Other Comments

Since this scenario assumes that all current OCLC users would use this system, there is a large one-time equipment cost to replace all OCLC terminals and equipment. It is unlikely that this scenario would ever be implemented as outlined here. Many OCLC users would not want to change systems, and it would not be advantageous for all to do so. The OCLC database would contain many more records than the WISCAT database ever will contain and libraries will get a higher hit rate against that database.

This scenario includes costs for two services (interlibrary loan transmission and subject searching) which are not in the OCLC scenario costs. These services are included here, because they are included in the base costs of the service and there are not additional transaction costs associated with them.

Brodart currently does not have a system this large in operation. The costs as presented here, however, provide a conceptual view of the unit costs and the effect of applying them to a specified number of libraries.

Cost of State Database On Compact Disc

	UNIT COST	OCLC USERS Number of Units	OCLC USERS Cost	MITINET/WISCAT USERS Number of Units	MITINET/WISCAT USERS Cost	TOTAL COST for both Users
ONE TIME EQUIPMENT STARTUP COSTS						
CD-ROM players (4)	$2,700.000	100	$270,000.000	400	$1,080,000.000	$1,350,000.000
Microcomputer	$1,200.000	100	$120,000.000	400	$480,000.000	$600,000.000
Printer/cables	$358.000	100	$35,800.000	400	$143,200.000	$179,000.000
Software	$0.000	100	$0.000	400	$0.000	$0.000
ANNUAL COSTS						
Equipment Maintenance/Other						
CD-ROM						
Player/Microcomputer/year	$200.000	100	$20,000.000	400	$80,000.000	$100,000.000
Software	$0.000	100	$0.000	400	$0.000	$0.000
OCLC						
M-300 maintenance/year	$432.000	68	$29,376.000			$29,376.000
Terminal maintenance/year	$540.000	91	$49,140.000			$49,140.000
Modem (leased line)/year	$780.000	72	$56,160.000			$56,160.000
System service fee/year	$336.000	152	$51,072.000			$51,072.000
Dial access password/year	$248.000	48	$11,904.000			$11,904.000
Dial access/cataloging/hrs.	$9.600	2,964	$28,454.400			$28,454.400
Basic service fee	$50.000	84	$4,200.000			$4,200.000
On-going support	11.7%		$106,894.836			$106,894.836
Production of Records (Library)						
Current cataloging						
OCLC						
Prime time	$1.390	263,200	$365,848.000			$365,848.000
Non-prime time	$1.170	147,069	$172,070.730			$172,070.730
Credits	($0.500)	85,830	($42,915.000)			($42,915.000)
MITINET						
MARC fiche/year	$90.000			200	$18,000.000	$18,000.000
Supplement/year	$95.000			200	$19,000.000	$19,000.000
Retrospective conversion						
OCLC						
Prime time	$1.170	6,151	$7,196.670			$7,196.670
Non-prime time	$0.300	377,767	$113,330.100			$113,330.100
Microcon	$0.340	295,437	$100,448.580			$100,448.580
MITINET	$0.000				$0.000	$0.000
GPO			$2,000.000		$2,000.000	$4,000.000
Database Maintenance						
Add unique MARC records	$0.070	240,000	$16,800.000	50,000	$3,500.000	$20,300.000
Add non-MARC records	$0.200			25,000	$5,000.000	$5,000.000
Update/change records	$0.000					$0.000
Delete records	$0.000					$0.000
Correct errors	$0.000					$0.000
Delete duplicate records	$0.000					$0.000
LCCN consolidation/indexes	$0.005				$20,400.000	$20,400.000
Extraction support/year	$6,000.000				$6,000.000	6,000.000

Cost of State Database On Compact Disc (continued)

	UNIT COST	OCLC USERS Number of Units	OCLC USERS Cost	MITINET/WISCAT USERS Number of Units	MITINET/WISCAT USERS Cost	TOTAL COST for both Users
Online Access						
Telecommunications	$0.000					$0.000
Leased line						
Dialup						
Transaction costs	$0.000					$0.000
Software Development/Maintenance						
Annual salary (programmer)	$29,465.856				$29,465.856	$29,465.856
Administration						
Annual salary (database manager)	$18,925.235				$18,925.235	$18,925.235
LTE recordkeeping	$8,802.590				$8,802.590	$8,802.590
Training/Consultation						
Annual salary (database manager)	$18,925.235				$18,925.235	$18,925.235
Other (Annual)						
Supplies	$4,100.000				$4,100.000	$4,100.000
Archival tapes	$1,000.000		$1,000.000			$1,000.000
MACC transmission	$6,000.000				$6,000.000	$6,000.000
Travel	$5,000.000				$5,000.000	$5,000.000
Statistics	$500.000				$500.000	$500.000
Products from Whole Database						
Tapes	$1,200.000				$1,200.000	$1,200.000
CD-ROM						
Master/title/copy	$0.032			2,700,000	$86,400.000	86,400.000
Copies/per set of disks	$60.000	100	$6,000.000	400	$24,000.000	$30,000.000
TOTAL (ONE TIME EQUIPMENT)			$ 425,800.000		$1,703,200.000	$2,129,000.000
TOTAL ANNUAL OCLC			$1,053,180.316			$1,053,180.316
TOTAL ANNUAL BRODART/OTHER			$ 19,800.000		$ 357,218.917	$ 377,018.917
STATE COMPACT DISC PROJECT TOTAL			$1,498,780.31[illegible]		$2,060,418.917	$3,559,199.233

PRODUCTS FOR LIBRARIES

Products from Database Subset

Tapes (archival)	None		
Tapes (deduped)	per title/.005		
Microfiche	Varies		
Microfilm	Varies		
CD-ROM	Varies		
WISCAT Tapeload			
Initial/OCLC number	$0.120	2,100,000	$252,000.000
Initial/unique	$0.200	600,000	$120,000.000
Annual	Combination	315,000	$41,000.000

Notes for Costs of Compact Disc Database

All costs are based on estimates made by Brodart. Actual costs would be obtained through a bid process and might well be less than listed here.

Participation:

OCLC users include 100 libraries which currently have online access. Processing center users are listed under WISCAT/MITINET for all costs besides cataloging because this is the current format used to supply them with bibliographic and holdings information. This distinction is not important for this scenario, but this assignment is consistent with that used in the other scenarios. There are 400 WISCAT/MITINET users.

Equipment:

IBM-PC microcomputers and the four CD-ROM players are priced as they would be purchased through Brodart. The printer and cables are quoted at state purchasing prices. The microcomputer is a 512K computer with one disk drive and a full keyboard. The price is based on purchase of 100 or more units. The price of both microcomputer and CD-ROM players is expected to decrease. It is also possible to use IBM or compatible equipment purchased through the state contract, but this does not appear to be cheaper at this time.

Production of records:

The bibliographic database to produce the CD-ROM is the same as the one used to produce the WISCAT microfiche. OCLC libraries contribute records through use of the OCLC system and these records are added to the database by processing OCLC archival tapes. Other libraries add records through use of MITINET or through tapeload of records from other automated systems. Costs of adding both OCLC and MITINET transactions to the database are listed under database maintenance. Production of records using either method also involves labor costs which are not listed here.

The cost of computer transactions and other items are listed in this budget. OCLC costs are based on actual OCLC usage for 1985/86 and prices are for 1986/87. While OCLC costs are usually paid for locally, the costs are included here to show all costs associated with the project.

The MARC fiche allow MITINET libraries to use bibliographic records in the Library of Congress MARC file which are not on the WISCAT database. Currently libraries share use of the MARC fiche; therefore, fiche are only bought for 1/2 of the libraries participating.

Costs for retrospective conversion including labor have been kept as a result of tracking LSCA projects. Use of OCLC has averaged $.66 per transaction and use of MITINET has averaged $.36 per transaction when labor is taken into account.

Database maintenance:

While bibliographic records can be added from a variety of sources, only the addition of unique records incurs a cost. Once a record is in the database, there is no charge to add holdings from another library or to make changes to that record.

Online access:

Libraries using CD-ROM receive many of the benefits of using an online system such as online searching capabilities. However, there are no transaction costs for searching once the product is created. Since it is a fixed media, it also cannot be kept up to date in an online mode. There are no telecommunications costs.

Local products:

Local products can be created after records are extracted from the database. Extraction costs are not charged if local CD-ROM or COM products are produced. There is an extraction charge for tape products if the database(s) to be extracted do not equal 100,000 titles. Support for smaller database extraction is included under MITINET since these libraries are most likely to have small databases. Both OCLC and MITINET libraries can make extractions.

Unit costs for products vary depending on the number of titles included. For example a small library with 2,500 titles will pay $.07 per title for a microfiche or CD-ROM master and $.00053 per title for microfiche copies. A large library with over 500,000 titles will pay $.04 per title for a master and $.000031 per title for microfiche copies. CD-ROM copies are based on disk ($15 per disk) rather than title costs.

Notes on Purposes

- Development of an interlibrary loan tool for verification of specific titles and library holdings.

The CD-ROM would be a very useful tool for interlibrary loan. The database includes records from a variety of types and sizes of libraries. Library staff can update the records in the library and provide DLS with update transactions. The CD-ROM format allows more flexible searching patterns than the microfiche version of the catalog. Author, title, truncated, and keyword searching techniques are possible. Full bibliographic records are available to aid in identification of different editions and formats. Information on nearly 3 million titles and 10 million holdings are available.

Once a record has been identified on the CD-ROM it will be possible to write that record on a disk. These records can then be sent to the bulletin board system.

The weakness of this format for interlibrary loan is that the information cannot be kept up to date instantaneously. Supplement disks can be produced periodically and the entire database can be updated periodically. Normally a database of this size would not be entirely updated more than annually. It would be possible to produce supplements.

- Development of a reference tool for verifying available information on specific subjects and verifying complex bibliographic citations.

The CD-ROM database can be used for this purpose. Subject access can be obtained by searching subject heading information or by using the key word searching capabilities.

- Development of a database which could be used by libraries to create machine-readable bibliographic records for use in local and area level automation projects.

The database from which the CD-ROM product is created allows for records to be contributed from a variety of sources. Records can be extracted from this database for a single library or a group of libraries. Subsets of the database can be produced on tape, COM, or CD-ROM format. Statewide prices have or could be negotiated for any of the above format. The bibliographic records extracted will be the master record in the database and will not contain each library's bibliographic variations. The holdings statement will contain each library's variations.

- Development of a tool which could be used as a guide for selecting miscellaneous pieces of cataloging information: such as call numbers, subject headings, correct main entries, cataloging information, catalog card filing rules, and other information.

The bibliographic records on the CD-ROM would contain all of the above information.

- Development of a catalog which could be used by local libraries as a backup to local online circulation systems or library catalogs.

The CD-ROM workstation could serve as a workstation which could be used when an online system is not operating. The user would also be able to search in an online environment. The database would not be as up-to-date as the online catalog or circulation system and a means of supplementing this information might be necessary. However, a substantial portion of the information would be available. It is possible to limit searches to only the holdings of a single library so it would not be necessary for a patron or staff member to look at the state holdings unless this was judged to be desirable. Circulation information would not be available.

- Development of a tool which could be used by library users to supplement local library catalogs.

The CD-ROM format can be used as an online catalog for inhouse patron or staff use. The software has been specifically developed for this use. Searching techniques are flexible and easy to use. It is possible to search on a single library name or on a systemwide basis as well as a statewide basis.

- Development of a tool which could be used as a primary source of current cataloging information.

This system as costed out here will not serve as an efficient means of providing current cataloging in the traditional sense. The database will not be up-to-date unless supplements are produced. The information may be useful at the time the database is produced but will become decreasingly so as time passes. The software does not currently have the capability of printing catalog cards.

There are two ways in which libraries could supplement this system to provide cataloging services. The Bibliofile software and disks can be operated on the same equipment as a CD-ROM version of WISCAT. Libraries could subscribe to that system to obtain current cataloging.

Libraries can create current machine-readable catalog records using the LC MARC fiche and MITINET/retro but cannot produce cards in this process. Cards can be produced using MITINET/marc and ULTRACARD MARC on an IBM-PC. However, it will not be cost effective to produce all records in this fashion and may not provide satisfactory input into the database as duplicate records could be created and go undetected.

Other Comments

This option requires a large one-time investment in equipment. Once this investment is made, the on-going annual costs are less than those for the current microfiche project.

The OCLC costs listed are those which are paid for by local libraries to obtain the services of OCLC which libraries would continue to incur regardless of the existence of this project.

The WISCAT tapes received from Brodart could be loaded into OCLC at a cost of $324,000. OCLC would read each record on the tape and set a three letter code for each library listed. It is not clear how these records would be updated on OCLC if holdings changed. OCLC cannot currently process MITINET transactions. Detailed holdings information (call number, copies, etc.) would not be entered into OCLC. If the tapes are loaded into OCLC, only OCLC libraries would have access to the records via OCLC. In this case, OCLC libraries might not need a copy of the CD-ROM equipment or a copy of the CD-ROM disks.